# Clinical Lecture
ON
# DECEPTIVE ABDOMINAL PAIN IN LATENT HERNIA, ESPECIALLY WITH REFERENCE TO THE SURGICAL ASPECT OF CERTAIN CASES OF SO-CALLED INDIGESTION.

*Delivered at St. George's Hospital Medical School on March 20th, 1894,*

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GENTLEMEN,—There is a patient now under my care in the Fitzwilliam Ward whose case illustrates so well how very deceptive symptoms of pain about the abdomen may be that I think it is a good case for your consideration, first of all because I am not quite sure that some of the causes of abdominal pain are so well understood as they should be, and, secondly, because I happen to have seen in the course of the last few years several other instances which teach exactly the same lesson as this man's case. The patient I refer to is a man twenty-three years of age, who was admitted to hospital on Feb. 28th. He was sent to me with symptoms which were thought to be those of "perityphlitis"; he was sent, in point of fact, with a view to the removal of his vermiform appendix for the relief of the discomfort from which he has repeatedly suffered. He had, for three or four years, been suffering, on and off, from recurrent abdominal pain. Whenever he took any unusual exercise, if he took a long walk, or ran, or did anything of that kind, or if he happened to eat any indigestible food, he was always attacked by a kind of "crampy" pain in the lower part of his abdomen, just over the cæcal region. This pain sometimes lasted as long as two or three days, was invariably accompanied by tenderness over the cæcum, and was also always followed by obstinate constipation. These symptoms, as you will see, fairly well resemble the effects which sometimes follow the condition which we call "perityphlitis." Upon examining the man somewhat cursorily in the surgery I could not make out any sign of thickening or other indication of disease about the vermiform appendix. At that time he had no pain, as he had not been exerting himself very recently and had been carefully refraining from indigestible food. Assuming, however, for the moment that the case was one of the nature suspected, seeing that the man had been sent with a view to operation, I took him into the hospital. On the following day we again examined him as he lay in bed, and again I failed to find any symptoms whatever of anything wrong about the region of his cæcum; but I noticed that the right spermatic cord was considerably larger than the left. Upon feeling it, it seemed at first as if the man was the subject of a varicocele, and when questioned on this matter he said that for six months he had been wearing a truss because someone had told him he had large veins on that side of the scrotum, and that a truss was a good thing to relieve the discomfort sometimes caused by that affection. Very little examination made it evident that the case was not one of varicocele at all. There was about the right spermatic cord a softish, flabby, nodulated mass, feeling somewhat like large veins occasionally do in a very tense varicocele, but still differing altogether from a varicocele in that they ceased abruptly just above the testis, terminating in a blunt end—an arrangement never seen in a varicocele passing so far down into the scrotum. It was certain, in fact, that this man had a small nodule of omentum in an old hernial sac, of which he was not aware. Following that idea a little further, I came to the conclusion in my own mind—and expressed my conviction to some of you at the time—that the symptoms which were so very like those of perityphlitis were due, not to the existence of any mischief round the vermiform appendix or cæcum, but to this little nodule of omentum lying in a hernial sac. Upon that assumption a few days afterwards I cut into the groin with a view to performing a radical cure for the hernia which I supposed to exist. Presently, after exposing a thin sac, I came upon the little nodule of omentum, as I expected, with a small stalk passing up through the very narrow neck of a hernial sac. This nodule of omentum was adherent below, and could not be reduced at all; but it was connected with the parts inside the abdomen by its long stalk. Such was the condition of things then, and in my mind it fully explained the symptoms of which the man complained, the history of his suffering being, so far as I could judge, something like this. In an ordinary way the piece of omentum, connected with the omentum inside the abdomen by a long stalk, lay in the sac with the stalk quite loose and flaccid, therefore the man was usually quite unconscious of its existence; during any great exertion, however, or if he ate any particularly indigestible food, a good deal of movement in the intestines and alteration in the intra-abdominal tension would be brought about, the result being that this stalk or tag of omentum was pulled upon, and so was caused the intra-abdominal pain from which he suffered; and, as it happened that the stalk went up towards the right side, the dragging upon it afforded a fair explanation of the resemblance of the pain to that of perityphlitis. It will remain to be seen whether this man again suffers from the pain which formerly troubled him. I do not think he will. I have no doubt the explanation of the symptoms which I have given you is the real one, and that the treatment adopted will cure him not only of the hernia but also of these "crampy" pains from which he suffered.[1]

My next case is a very interesting one of the same kind, but a little more obscure. It occurred in a patient about thirty-two years of age, who for eight or ten years had been constantly the victim of very acute dyspepsia—at least, that was her account. She stated that after taking food, especially indigestible kinds of food, which would naturally be expected to excite rather energetic peristaltic action, she always suffered from this acute crampy "indigestion" (that again was her own term). She had been to more than one medical man, and had been treated for indigestion by them all. She had taken, so far as I could ascertain, almost every drug having any reputation for the cure of dyspepsia. Still getting no relief, she became wearied, and, for some reason or other, in the course of her peregrinations in search of relief she came to see me. Following a rule, which I think is a good one—viz., in any case of abdominal pain to always thoroughly examine the patient and not to accept the patient's word merely that the case is one of indigestion, constipation, or what not—I examined her as carefully as I could, and, I am bound to say, could find nothing. At last, however, as I happened to be examining the middle part of the abdomen, she all at once said, "That is the spot where the pain always begins." That led me, of course, to examine the spot a little more minutely; and there I found, exactly in the middle line, about halfway between the ensiform appendix and the umbilicus, a small, round, movable nodule, about the size, apparently, of an ordinary filbert, of which the patient knew nothing, and which, she said, nobody had discovered before. Indeed, so far as I could learn, hardly anyone whom she had consulted about her symptoms had examined her abdomen at all, excepting over the liver region. It had apparently been assumed, from the symptoms she described, that she was suffering from acute indigestion, and she had been treated accordingly. The little nodule, then, in this case explained the history of the many years of "indigestion," so called. You probably know that it is not at all uncommon to find in the middle line of the abdomen little openings the result of defective coalition of the parts in that situation during development, and that when these small defects exist there is generally a tendency to a protrusion, through the opening, of the fatty tissue lining the inside of the abdominal wall—the subperitoneal fat. But occasionally the protrusion is something more than that. It is sometimes a small omental hernia lying in a little peritoneal sac just under the skin. In this woman, then, I concluded that there existed in the middle line of the abdomen a condition very much the same, from a mechanical point of view, as was found in the man whose case I have just related. She had, I believed, a piece of omentum in a hernial sac connected with the parts inside the abdomen by means of a stalk, so that when the intestines rolled about under the impetus of exercise, great exertion, or indigestible food she felt this same crampy pain which she described as indigestion and for which she had been unsuccessfully treated for years with drugs applied simply to the treatment of that complaint. The history of

[1] The patient was perfectly well three months subsequently, no recurrence of the old symptoms having taken place.

the case was simple enough, and the treatment clear. This little nodule which proved to be a piece of omentum was taken away; it was not larger, as was found upon cutting down upon it, than a large pea. It felt larger before because the sac in which it lay was enveloped by a mass of adipose tissue which is generally found lying over these small openings in the middle line of the abdomen. The tissue is really modified embryonic tissue, the same sort of material as is so commonly met with about the sac of a femoral hernia. After the removal of the piece of omentum all the symptoms of indigestion disappeared.

The next case was a remarkable one, because it shows the way in which spontaneous relief from pain may occur in conditions of this kind. A man came to see me in consequence of a tender swelling in the right side of his scrotum, which alarmed him somewhat, because it followed upon rather a peculiar circumstance. For many years he had been in the habit of suffering from almost the same symptoms as the man in Fitzwilliam Ward—that is to say, he was constantly getting recurrent attacks of abdominal pain and tenderness, with obstinate constipation. He could never explain exactly why they came, and he never knew when they would come; but, as a rule, they tended to occur when he rose from the recumbent to the erect position; they came on, therefore, most frequently when he got up from bed in the morning. They only happened about once in every six months and had occurred seven or eight times altogether. He had been told by some persons who had seen him that he was probably the subject of some unnatural condition about his cæcum—the assumed unnatural condition being, I suppose, some disease of the vermiform appendix. During the last attack of pain, which occurred about a week before he saw me, he had attempted to lift a box, and as he was doing this he felt a sudden very acute pain in the groin, which made him feel quite sick and faint for the moment; then all at once his pain ceased and did not recur in the same form; but, on the other hand, he noticed that he had a painful swelling in the scrotum. He therefore came to know what it all meant. He had, so far as I could see, a very small hæmatocele, but the parts were so tender, and altogether he was so sensitive, that I could make out nothing definite at first. In the course of ten days I saw him again. At that time he appeared to me to have a varicocele with a large mass of blocked veins in its centre; that was the impression the case gave me. I had never seen anything quite like it before; but, seeing that a varicocele is a collection of large altered veins, and that blocking of these veins does, one knows, sometimes occur, I assumed that the condition was as I have stated—rather because I could not see any other cause for the swelling than because it seemed particularly like a thrombus. Well, as there was a varicocele there, and as the diagnosis of the case was somewhat doubtful, I suggested that the best thing for him to do would be to have the thing explored. He would then, at all events, have the advantage of getting his varicocele cured, and if it was a blocked varicocele, the block not extending as high as the inguinal canal, the division of the varicocele above the point of blocking, I thought, must at all events be advantageous. So we decided that this should be done. On cutting down upon the varicocele in the ordinary way I came upon a small cyst containing a little blood-stained fluid, and lying in the cyst was a small, loose mass of fat. I picked it up with the forceps and was going to take it out altogether, when I found it was attached by a little process to the base of the sac, and for the moment I thought it was one of those lipomatous congenital tumours which are sometimes seen about the spermatic cord, and that some injury which the patient had done himself whilst lifting the box had caused hæmorrhage to occur round about it, which I thought might account for the fact of its lying in the middle of the blood-stained fluid quite by itself, attached by a process to the bottom of an adventitious sac. But upon a little investigation it was quite clear that this supposition—which, of course, was the result of a merely momentary impression—was altogether wrong, and that the cyst was not an adventitious thing at all, but was the sac of a hernia, and that this small piece of omentum represented the contents of a hernial sac, of the existence of which the patient had been unaware. In the exertion which he had been making at the time when the pain suddenly ceased he had broken across the stalk of the piece of omentum. With the breaking of the stalk the pain ceased, because there was no further tension on the part. The stalk withdrew into the abdomen, and the man was altogether relieved from the pain. But there was still left in his scrotum the tag of omentum which originally constituted his hernia; the swelling and hæmorrhage were connected with the breaking off of the stalk. I operated on the varicocele and obliterated the hernial sac, and he has had no further symptoms. This case is instructive, as it shows from beginning to end the history of a point I wish you to understand. The patient had in an old hernial sac an adherent piece of omentum connected, by means of a long thin stalk, to the parts inside the abdomen. Under ordinary conditions this stalk was flaccid and exercised no traction upon the parts it connected, hence no discomfort arose; when, however, by reason of some exertion, or in consequence of the taking of indigestible food, violent peristalsis was started in the intestines, or the intra-abdominal tension, &c., was increased, the stalk, instead of being flaccid, became tense and dragged upon the parts between which it passed. The tugging of this long adhesion—that is what the thin stalk amounted to, for practical purposes—upon the omentum inside the abdomen started the "crampy" sort of pain which, common in all cases of omental hernia, is in some instances mistaken for mere indigestion. In this particular instance the cure was spontaneous, because during the attempt to lift the box the tension on the stalk of omentum was so great that it broke across. Thus the tag of omentum in the sac was set free; no traction upon the part being now possible, complete relief of the symptoms necessarily followed.

Such, then, I take to be the explanation of the pain in these cases. The situation of the hernia is of no moment; it may be in the scrotum, in the middle line of the abdomen, or elsewhere. Here is another instance.

The patient, a domestic servant, was constantly having to give up her work because she had indigestion, with feelings of great faintness, and colicky pains about the lower part of her stomach. She had been told her condition was due to drinking tea, and again it was because she took milk; in fact, whatever she drank or ate seemed to cause pain. In this condition she went on with her work, getting thoroughly disheartened. At last she came to the hospital, and, fortunately for her, she happened to come on a day when she had the pain rather badly. Following my invariable rule again, I examined her carefully, and found a little fulness in one groin, just above the labium; this I took to be the key of the situation. She had, as was subsequently proved, an unobliterated canal of Nuck; the funicular process of the peritoneum had not in her case quite closed, and she had, in the same way as the other cases, a little tag of omentum passing down into the sac thus formed. We operated upon her, removed the omentum, and closed the neck of the sac; she had no further symptoms.

The case I now come to is an extremely interesting one.[2] A patient consulted me with regard to intense rolling and "crampy" pains about the upper part of his abdomen which always followed the taking of food. He had suffered from these pains for a considerable time and had been treated for dyspepsia, for the cure of which he had, to use his own words, "learned to swallow many things" in the way of drugs, &c., but without effect; in fact, the more medicines he swallowed the worse were the symptoms, until at length his life was becoming unbearable. He had a hernia in each groin, of the ordinary reducible kind; he wore a double truss, which kept the ruptures up perfectly. The symptoms of which he complained were clearly not in any way connected with these herniæ. Upon examining the abdomen there was found, about one inch above the navel, exactly in the middle line, a small, round, movable tumour as large as a cherry, having all the characteristics of a lipoma. He then stated that all the pain from which he suffered started from that spot and gave him the impression of something inside being bound down there. He felt sure that if this could be "loosened" he would be quite well. I therefore cut down upon the small tumour and exposed a rounded nodule of fat, which, terminating deeply in a thin stalk, passed through a small opening in the abdominal aponeuroses not larger than a No. 8 catheter (English). It was continuous with the subperitoneal fat, and the peritoneum was not seen in the operation. The tumour was, in fact, a congenital lipomatous mass passing through an opening in the middle abdominal line, of the kind to which I have already referred early in this lecture. The removal of this herniated fat entirely cured the patient, who, after the soreness resulting immediately from the operation had passed away, experienced no further discomfort;

[2] This case occurred later than the date of this lecture; it is, however, inserted as it has such a direct bearing upon the matter under discussion.

the pains after taking food and the so-called indigestion entirely disappeared. The especial interest in this case lies in the fact that it demonstrates very conclusively that pains and discomforts indistinguishable from those produced by omental hernia may be caused by the protrusion through the abdominal wall of the extra-peritoneal fat, which may also give rise to symptoms easily mistaken for dyspepsia and only curable by the removal of the protrusion, an operation of extreme simplicity and without risk of any kind, seeing that the peritoneum is entirely uninvolved.

One case more before I conclude. A patient advancing in years consulted me concerning some swelling of one leg, and, whilst discussing his symptoms mentioned that he was constantly getting attacks of "acute indigestion," with colicky pain across the middle of the abdomen. These attacks generally came on if he took a heavy meal, and lasted sometimes for hours; they finally, as a rule, subsided almost suddenly, considerable eructations occurring at the same time. The abdomen always remained "sore" afterwards, and constipation invariably followed. At the time this patient came to me he was quite free from "indigestion"; but he allowed me to examine his abdomen, which appeared to be natural, excepting that there was undoubtedly a small defect in the abdomen wall under the navel, which I concluded was the opening of the sac of a small umbilical hernia, although no protrusion of any kind was at the time perceptible. Somewhat suspecting that this umbilical defect might have been connected with his "indigestion," I asked him to allow me, as a matter of curiosity, to examine him when he was next suffering from one of the attacks—a justifiable proceeding on my part, as he had long ago, he said, given up medical men, as they failed to cure or explain this "indigestion." I therefore saw him in his next attack and found at the umbilicus a small, tense, rounded tumour, obviously an omental hernia, which now filled the previously empty sac. I was fortunately able to reduce the little rupture, and the symptoms subsided at once. The obvious treatment, speaking generally, of such a case is the removal of the hernia by operation; but in the case now related other circumstances rendered operation unadvisable. I mention the case, as it illustrates the occasional relation of so-called indigestion to small, unnoticed, umbilical hernia. Extremely small omental herniæ at the navel are much more common than is generally supposed, and often escape notice simply because they are so small; in spite of their small size, however, they account, I have had plenty of evidence to show, for a goodly number of cases of obscure abdominal pain, the mechanism being the same as that I have described just now. In one case of this kind which I saw the apparent "indigestion" was caused by a hernia in the loin. Hernia into the loin is not a very common thing, but, although uncommon, it is really less rare than it is generally supposed to be, as it is so easily overlooked, the loin being the last place in which a hernia is, as a rule, suspected to exist. This patient was a man who for years had complained of great discomfort, which he also had attributed to dyspepsia. He was not quite certain whether it arose from dyspepsia or gout. He was, at any rate, sure it came from one or other, and he had been treated for both, with no success. When he took purgatives containing nux vomica he always obtained some relief, while, on the contrary, if he took an ordinary purgative, such as castor oil, he always got these attacks of curious flatulent pain over the right side of his abdomen. On making a careful examination I found a distinct projection in the right loin, with an impulse on coughing, and possessing all the characteristics of hernia, which it was. His symptoms were without doubt entirely due to the gut, which, getting entangled in this hernial sac, set up irritation and caused his discomfort. The hernia being easily reducible, he was ordered a belt with a properly arranged pad, and he assured me he never had "indigestion" afterwards.

These cases will be sufficient to impress upon you the fact that symptoms are not always exactly what they seem, and more especially to emphasise the desirability, in every case of pain about the abdomen, no matter what the patient tells you the cause may be, or what may have been said by other persons concerning it, of invariably making a careful examination of the whole abdomen. In these cases I have mentioned the cause of the distress and discomfort from which the patients suffered would never have been determined at all without the thorough examination of the abdomen which was made. For instance, in the second case, where the little nodule of omentum in the middle line of the abdomen existed, unless I had made an examination very carefully indeed, it is almost certain that I should have missed the spot which the patient recognised as that from which all her discomfort seemed to start. In consequence of that good rule and its rigid application these patients, at all events, were relieved of discomforts from which they had been suffering for many years, and from which they had altogether failed otherwise to obtain relief. It is, therefore, an excellent thing to bear in mind what I have said about the necessity of a general examination of the patient's abdomen in cases of apparent "dyspepsia." In all these cases of abdominal pain it is also wise, especially if the pain be "crampy," to examine the scrotum in order to ascertain whether both testicles are in their natural position, because I have at the present moment within my recollection another case, something like those of which I have been speaking, in which all kinds of obscure abdominal pains had existed for some years, during which the patient had been treated for many conditions—amongst others, that of floating kidney, which did not appear to exist. There was on the left side what is called a "migratory testicle"—a testicle which, as you know, is sometimes in the scrotum and sometimes in the inguinal canal, because the upper portion of the tunica vaginalis has never been properly obliterated. In such cases the testicle, when it rises into the inguinal canal, is occasionally retained there for a short time and subjected to a certain amount of pressure in consequence. Irritation follows, and curious pains occur about the abdomen, referred sometimes to the pit of the stomach and sometimes to the loin, but often, curiously enough, not to the testicle itself. That is another point worth remembering in cases of abdominal pain of this sort. In all these cases, therefore, in addition to examining the abdomen itself and the inguinal canals, the scrotum should be investigated in order to make sure that the testicle is in its natural situation, and to see whether it is possible, with a little gentle pressure, to push it up into the inguinal canal. If that is possible, you are justified in concluding that these vague, intractable abdominal pains may perhaps be due to the abnormal condition of the testicle which I have just mentioned. If this is so, the pains can be entirely removed by the use of a well-fitting light truss to prevent the unnatural upward movement of the testicle.

These cases, I venture to think, are of considerable interest. They speak for themselves, and the main lessons taught by them are obvious and, in some respects, elementary. The importance, however, of the relation between "latent hernia"—i.e., hernia of which the local signs are insufficient to attract attention—and the symptoms of certain cases of so-called indigestion has not, so far as I can tell, been hitherto sufficiently realised by the majority of practitioners.

# A Clinical Lecture

ON

# DILATATION OF THE RIGHT VENTRICLE.

*Delivered at the Birmingham General Hospital on June 4th and 11th, 1894,*

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*(Concluded from p. 506.)*

I HAVE now discussed: (1) the pulmonary systolic murmur, its etiology and auditory characters: (2) the accentuation of the pulmonary second sound; and (3) the venous hum known as the *bruit de diable*. This brings me to:—

4. *The murmur due to tricuspid regurgitation.*—Theoretical as well as practical considerations seem to show that tricuspid regurgitation must accompany dilatation of the right ventricle, at all events if it be well marked; but from a clinical point of view it is sometimes difficult to point to any physical sign which makes its presence or absence certain in any particular case. It can, I think, be truthfully affirmed that there is no physical sign which is characteristic of tricuspid regurgitation in the way in which the systolic apical murmur with displacement of the apex beat is characteristic of mitral regurgitation. Perhaps the two most reliable signs are, firstly, the presence of a systolic murmur audible in any or all of the following situations: (*a*) over the body of the right ventricle; (*b*) over the right auricle, and especially over its appendix, when this portion of the heart comes near enough to

the chest wall to be within reach of the stethoscope; and (*c*) over the situation of the superior vena cava, just to the right of the sternum in the first and second interspaces. Secondly, the presence of true systolic pulsation in the veins of the neck or over the liver. The diagnostic value of the former sign is diminished by the fact that it is often extremely difficult to differentiate it from the pulmonary systolic murmur, with which it is almost invariably associated in adolescent cases as well as by the fact that it may (albeit very rarely) be absent in even well-marked cases of tricuspid regurgitation. Such a case is published in a German medical journal.[1] True pulsation in the veins of the neck is almost absolutely reliable as a positive sign of tricuspid regurgitation, but is, of course, valueless as a negative sign. Very frequently cases of undoubted tricuspid regurgitation are met with in which this sign is completely absent. As a most marked instance I may quote the case of a girl aged fifteen who was under my care in this hospital suffering from mitral disease with an enormously dilated heart. The apex was in the axilla, six inches and a half from the sternum. The cardiac pulsation was visible from the second to the seventh interspaces, inclusive, and extended to the right of the sternum as far as the right nipple line (two inches and a half). The pulsation to the right of the sternum was shown by the cardiograph to be due to the auricle, and there was, in this case, so much tricuspid regurgitation that a systolic thrill was clearly felt over the auricle in the neighbourhood of the right nipple; nevertheless, there was in this case no venous pulsation in the neck, nor was there any pulsation of the liver during the six months that she was under observation.

*Systolic tricuspid murmur.*—In cases where there is no true pulsation in the veins of the neck the tricuspid systolic murmur is often of great diagnostic value. The chief point of difficulty is its distinction from the pulmonary systolic murmur. The main distinguishing features are as follows. The area over which it is heard is, as a rule, lower than that of the pulmonary murmur. The latter is rarely heard below the third space, whereas the area of audition of a pure tricuspid murmur is approximately an oval-shaped area, bounded on the right by the sternum, above by the third rib, below by the fifth rib, and extending a variable degree towards the nipple line in the fourth space. This area varies according to the amount of dilatation present, and may be approximately put down as coinciding with the inner half or two-thirds of the absolute cardiac dulness. A difference in pitch between the two murmurs will sometimes be noted by which they can be distinguished, but the character of the tricuspid murmur varies much in different cases. A point of diagnostic value is often obtained in the fact that the tricuspid systolic murmur is heard very loudly at the sternal ends of the second and third right interspaces, over the situation which the tip of the right auricular appendix would occupy in a dilated heart; it is, however, in my experience unusual to find the murmur audible here in the adolescent type of functional cases. It is more common in valvular disease and with the adult type of dilatation. When the murmur is audible in the first interspace over the great veins it is very difficult to distinguish it from an aortic murmur. The point to be relied upon is its loudness close to the sternum as compared with its feebleness or absence over the carotids and distal portions of the subclavians, a moderately loud aortic systolic murmur being, of course, loudly conducted along the arteries.

5. *The third sound of the heart.*—By this name I consider that we ought to designate the sound which, when added to the second sound of the heart, gives rise to what is known as "a reduplication of the second sound, which is audible only at the apex." The occurrence of this sound at the apex or over the right ventricle of the heart produces one of the varieties of what is known as the *bruit de galop* or triple sound of the heart. The most familiar instance of its occurrence is in the mitral stenosis, when there are audible at the apex a presystolic murmur and "reduplicated second sound." It is, of course, an abnormal sound in the human heart. As regards the time of its occurrence it follows the second sound, the interval being nearly equal to that between the first and second sounds, and, moreover, in any one case the interval appears to be constant and does not vary when the heart is irregular. In character it is a faint sound, and is often, in the cases I am dealing with, inaudible with a wooden stethoscope or when the binaural stethoscope is pressed too firmly. It is very apt to be inconstant in its occurrence and is frequently only to be heard with the heart beats which occur during the pause between expiration and inspiration and at the commencement of inspiration. Its area of audition is over the body of the ventricle, and it is not loud enough to be conducted widely.

In the cases I am now dealing with, clinical observation seems to show that the two factors upon which this sound depends for its production are the amount of dilatation of the right ventricle and the strength of the forces producing the inrush of blood into the ventricle on the opening of the tricuspid valve. Thus in a feebly acting and dilated ventricle we get no third sound, but as the strength of the heart increases a third sound often appears for a time and disappears again when the ventricle further regains its tone and the dilatation disappears. I am unable here to go fully into the causation of this "third sound," but I will only say that I feel sure that this sound as well as the diastolic murmur which is often closely associated with it, and which will be shortly discussed, are both of them manifestations of an active expansion movement on the part of the ventricle, whereby blood is sucked into it from the auricle and veins immediately after the closure of the semilunar valves. The theory of the production of the third sound is, I believe, as follows. In consequence of the dilatation of the ventricle the chamber does not empty itself completely during its systole, and therefore at the end of this act the valve flaps are separated from the ventricular walls by a certain amount of blood and are not closely applied to the walls as in the normal heart. The valve flaps are thus unsupported, and when the ventricular suction comes into play they have to bear the brunt of the first inrush of blood instead of falling back in contact with the expanding walls. If this inrush be sufficiently powerful the valve flaps will on the relaxation of the musculi papillares be thrown back against the ventricular wall in a manner calculated to cause a sound; when, however, from excess of dilatation or other causes the valve flaps are unable to move back against the ventricular wall the conditions are exactly such as ought to produce, not only a sound, but also a low-toned or humming murmur, for eddies are certain to be caused in the blood which separates the valve flaps from the ventricular walls. Such a murmur one occasionally hears accompanying and following the third sound in dilatation of the right ventricle; it is not, however, often heard in cases of functional dilatation, because the combination of vigorous cardiac contractions with a greatly dilated ventricle are not to be expected, and if it does occur it can only be a transient phenomenon, in consequence of the rapid diminution of the dilatation when the heart commences to act well. The circumstances are more favourable for the production of this murmur when the dilatation is secondary to valvular disease of the left heart. The third sound and diastolic suction murmur are of frequent occurrence on the left side of the heart in mitral stenosis, for there the valves are permanently prevented from assuming their normal position as the ventricle enlarges during its expansion movement, and the ventricle is, moreover, not only of normal strength, but is able also to alter the mode and strength of its contraction so as to develop a greater amount of suction, as is evidenced by the increased loudness and sharpness of the first sound in mitral stenosis.

6 *The diastolic tricuspid murmur.*—I have already discussed this murmur when dealing with the third sound of the heart, with which it is so closely associated clinically. It only remains to say that the murmur is usually faint and low-toned or humming, and is audible simply over the body of the right ventricle. The outer limit of its area of audition is often so sharp as to suggest the probability that, when present, the localisation of this murmur may serve as a guide to the position of the inter-ventricular septum. As regards its occurrence, it is rare in functional dilatation in adolescents, and I have only observed it three or four times out of several hundred cases carefully examined. In dilatation secondary to valvular disease it is much more frequent.

*The adult type of dilatation.*—I think I have said enough already as to the points which separate the adolescent type, which I have been discussing, from the adult type, to make further dwelling upon this subject unnecessary.

*Dilatation secondary to valvular disease.*—Most of what I have already said will be found to apply to this form of dilatation, if allowance be made for the effect of the changes in the left side of the heart which result from the primary

[1] Deutsche Medicinische Wochenschrift, May 31st, 1894.

lesion. The main difference between this and the former class of case is that the ventricle here is not necessarily weaker than normal and is, of course, often hypertrophied. Speaking broadly, the dilatation of the heart to the right of the sternum is more apt in these cases to equal or exceed in amount that in the second and third left interspaces, and, further, the systolic tricuspid murmur is in these cases more marked and the pulmonary systolic murmur less marked than in the functional cases. Other points of distinction may be gathered from what I have already said.

*Symptoms.*—The symptoms of dilatation of the right ventricle are mostly of the usual type—viz., breathlessness, palpitation, &c. There is one symptom, however, which is fairly distinctive of this condition, and that is pain localised to the region of the second or third left costal cartilage. This pain may be fairly acute, but more usually it is dull and aching in character, and is frequently accompanied by a sense of tightness in this region, and there is often in the adolescent class of cases a feeling as if too large a bolus of food had been swallowed and was sticking in the throat at the level of the second left interspace. These sensations are often relieved somewhat when the patient takes a prolonged deep inspiration, and this sighing, voluntary inspiration may often be noted in these cases. In addition, there is sometimes tenderness on percussion over the dilated ventricle, in the second left interspace, and there may even be tenderness on pressure.

*Etiology of dilatation of the right ventricle.*—Failure of the right ventricle will result from (1) excessive work thrown upon the normal ventricle—i.e., absolute overstrain; or (2) normal amount of work thrown upon a weakened ventricle—i.e., relative overstrain.

1. *Absolute overstrain.*—In this class of case the cause of the failure and dilatation of the ventricle is, for the most part, not inherent in the ventricle itself. The most typical examples of this class are those where there is dilatation of the right ventricle as a result of overstrain from excess of athletic exercise or from excess of heavy work, such as lifting heavy weights, in otherwise strong and healthy young men. These cases may be subdivided into—(*a*) those where the strain upon the right ventricle is indirect and due to the demands of the systemic circulation, as in the cases above mentioned or in valvular disease of the heart; and (*b*) where the strain is due to primary embarrassment of the pulmonary circulation—of this the most typical instance is, of course, emphysema. Pneumonia also produces dilatation from this cause, and I believe that we must also include in this category many, if not most, of the common cases of dilatation of the right ventricle in anæmia and chlorosis. Of course, in the last-named cases a prominent feature is the weakness from the anæmia, but I think there are sufficient grounds for believing that there is in addition an abnormal amount of contraction of the pulmonary arterioles caused by the poor state of the blood. This is a subject for physiological experiment. The fact that in suffocation there is a spasm of the pulmonary arterioles, which is removed by nitrite of amyl, as recently pointed out by Sir George Johnson, is in favour of the above supposition. Two years ago, in my thesis for the degree of M.D., I expressed my belief that the pulmonary vaso-motor system had, in all probability, much to do with the failure of the right side in anæmia, but, unfortunately, ill-health has prevented me from investigating this subject further, except so far as to enable me to say that there seems to be every probability that the nitrites may prove of considerable value in these cases.

2. *Relative overstrain as a cause of dilatation of the right ventricle.*—As a typical instance of this I may give the dilatation which is apt to occur after the fall of the temperature in rheumatic fever, but more especially when the patient first begins to get up. In such a case I have seen the right ventricle dilate out nearly to the left nipple line in the second left interspace in the course of a day or two. The dilatation in cases of anæmia and chlorosis is also in part due to weakening of the ventricle from malnutrition, and as another instance may be mentioned the weakening due to many acute febrile conditions.

In conclusion, I may say that there is yet much to learn as to these changes in the right side of the heart, and that there is scope for much careful clinical study as to the effect of drugs upon the pulmonary circulation, upon the great veins, and upon the character and strength of the important expansion movement of the ventricle.

# INTESTINAL APPROXIMATION, WITH ESPECIAL REFERENCE TO THE USE OF THE ANASTOMOSIS BUTTON.[1]

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IN order to attain good results in intestinal approximation one must consider the means of: (1) securing accurate contact of surfaces; (2) producing speedy and permanent adhesion of the approximated portions; (3) maintaining an opening sufficiently large for immediate purposes; (4) producing a cicatrix that will not contract to a deleterious degree; and (5) accomplishing all of these in the most *simple* and *rapid* manner. The means that have been employed to attain these ends are well classified as follows: (*a*) suture; (*b*) suture and mechanical aid; and (*c*) mechanical means. The microscopical appearances of the line of union at different intervals after operation were fully described both when Czerny-Lembert sutures were employed and when Murphy's button was used, and these tended to show that, though in both cases the union of the several coats was very perfect, yet there was less contraction after the use of the button than after the suture. In comparing the results obtained by the various methods employed in producing intestinal approximation certain conditions, which cannot be accurately estimated, must always cause great doubt as to the trustworthiness of the deductions drawn from statistics alone. These conditions are as follows: (1) cases ending favourably are much more likely to be reported than those that fail; (2) the condition of the patient before the operation; (3) the pathological conditions for which the operation is performed; (4) the ease with which a means of producing approximation can be applied increases the frequency of its use, especially in desperate cases, where more complicated measures would not be attempted, thereby increasing the chances of a greater percentage of unfavourable results; and (5) the dexterity of the operator. With these facts in view, I will proceed with my consideration of the results, beginning with gastro-enterostomy.

*Gastro-enterostomy.*—The pathological lesions for which this operation is performed are divided into two classes: (1) neoplasms involving the pylorus or duodenum, producing obstruction; and (2) cicatricial contractions occluding the pylorus or duodenum. The most common cause of obstruction is carcinoma of the pylorus. In some cases of this disease the obstruction is the first marked symptom of its presence, while in others it does not appear until the disease is very far advanced and the patient greatly emaciated and cachectic. The disease which produces the obstruction in the first class of cases without excision necessarily terminates fatally, and the operation of gastro-enterostomy in these cases is only for temporary relief. The patient should not be operated upon unless there is a reasonable chance of considerably prolonging life. While the patients may withstand the immediate effects of the operation, after four or five days they become weaker and weaker, until they finally succumb to the general depression, to which has been added the depressing effect of the operation. In 85 cases of gastro-enterostomy for malignant disease there was a mortality of 37·6 per cent., the suture method having a mortality of 42·8 per cent., while when the Murphy button was employed only 1 case died out of 7 (14·3 per cent.).

It has been found that with all other methods except the button cicatricial contraction occurred to a greater degree in gastro-enterostomy by lateral approximation than in any other operation. In the post-mortem records are found reports of complete closure of the opening from cicatricial contraction in five cases. These were all performed by Senn's method with bone-plates—that is, of the twenty-eight cases that survived the immediate effects of the operation five of the number, on whom necropsies were subsequently made, showed a complete closure of the opening. As many of them have not had necropsies it is fair to presume that the percentage of stenosis by this method is very much greater than this. Of these twenty-eight cases the total number in which necropsies were reported is eight. Three of these died before

[1] An abstract of a paper read before the New York Academy of Medicine, Dec. 7th, 18 3.

the end of four weeks, and the opening was patent; in the remaining five the opening was closed. This would appear to be a very forcible objection to the use of this method in gastro-enterostomy, and should exclude its application. The lateral approximation by means of the button is the only method in which the aperture is produced by a removal of tissue, all other methods depending upon simple incision. The cases of stenosis of the pylorus from other causes than malignant disease are of rare occurrence and are the ones in which it is important to have an approximation made where the element of contraction will not be of moment for an indefinite period of time. The operation that should be performed in this class of cases is complete separation of the end of the duodenum and stomach at the site of constriction. The end of the stomach should be closed with a Czerny-Lembert suture, and the distal end of the duodenum sutured or buttoned to the side of the stomach, thereby avoiding all the disagreeable and dangerous conditions that accompany gastro-enterostomy by lateral approximation.

*Pylorectomy with Gastro-enterostomy.*

To Rydygier belongs the honour of being the first to perform this operation. In Billroth's operation the stomach was sutured from the lesser curvature down until only sufficient opening remained to admit of the insertion of the end of the duodenum. The end of the duodenum was then united by a Czerny-Lembert suture to the opening in the end of the stomach. Rawdon's operation was practically the same, except that bone-plates were used to approximate the end of the duodenum to the end of the stomach. The time consumed in the operation by the Billroth method was so great (the average being two hours and a half) that all the patients were collapsed before it was completed. There was another danger. It was found that at the junction of the line of suture at the end of the stomach with the circle of suture approximating the duodenum gangrene occurred from the strangulation produced by the suture, and a failure of union resulted, increasing the mortality, already great from shock. To avoid these calamities it was suggested to close the end of the stomach and the end of the duodenum entirely by suture and make a lateral approximation of the stomach to the duodenum or jejunum. This has been performed twenty-four times, with thirteen recoveries (eleven deaths, or 45·8 per cent.). It is safer and more rapid than any means used for the approximation of the end of the duodenum to the end of the stomach. A still better method is the approximation of the end of the duodenum to the posterior wall of the stomach through an incision made for that purpose. The number of this class operated upon by mechanical means is two (anastomosis button); both recovered. The procedure by this method should be as follows. Place a double clamp on the stomach and incise the stomach between; also a double clamp on the duodenum with incision between. Transfix the mesentery attached to the pyloric portion with a double-threaded needle, and ligate as you would a broad pedicle; excise; apply a continuous Czerny suture to the end of the stomach; remove the clamp and insert a continuous Lembert suture, entirely closing the end of the stomach. Insert the female half of the button in the posterior wall of the stomach as usual, and the male half in the end of the duodenum; press the button together. The operation can be performed in from thirty to forty minutes. It leaves the end of the stomach securely closed, and the end of the duodenum firmly approximated to the peritoneal surface of the stomach—conditions which are favourable for immediate union. This operation has the following advantages: (1) the danger of shock is very materially lessened by the great reduction of time—i.e., from two hours and a half down to from thirty to forty minutes; (2) the end of the stomach is securely closed; (3) there is a uniform pressure in approximation of the duodenum to stomach; and (4) the danger of peritonitis is lessened, because the peritoneal surface has not been exposed to the atmosphere or manipulated sufficiently to abrade the endothelial layer on its surface, and consequently the likelihood of infection is lessened.

*Cholecyst-enterostomy.*—Probably the most difficult of all approximations to make by the suture is that of uniting the gall-bladder to the intestinal tract. The results from experimental research by this method were very unsatisfactory, and the verdict of Gaston, Harley, Colzi, De Paige, and others who pursued these experiments industriously was that it was a hazardous operation and one very difficult of execution. The number of operations performed by means of suture up to the present time is twenty-three, with eight deaths, being a mortality of 34·8 per cent.; and the number of operations performed by the anastomosis button for cholelithiasis twenty-three, with twenty-three recoveries. The number of operations in cases of cancer involving the pancreas, the duodenum, the gall-ducts, and the liver is two, with two deaths. The death in one case, reported by Dr. Weir, was due to the disease and not to the method, and occurred two hours after operation; in the other, a case of my own, to a twisting of the bowel upon itself before the approximation was made, as shown at the necropsy. A comparison of these results shows that the operation by mechanical means produces most excellent results—in fact, all that could be desired. It needs no other comment. The explanations for this favourable showing are as follows. 1. The operation can be performed in an extremely short time (in less than twenty minutes) compared to that by suture, thereby lessening the danger from shock and also of peritoneal infection from prolonged manipulation and exposure. 2. There is a uniform coaptation of the gall-bladder to the duodenum, which ensures a union, as there has not been in the human subject or in the animals experimented on by this method a single failure of union. The pressure also prevents hæmorrhage, which is one of the dangers of suture, as two patients died from that cause. 3. There is an immediate restoration of bile to the alimentary canal and an assurance that none of it will escape into the peritoneal cavity at the line of approximation. I believe that the operation of cholecyst-enterostomy by mechanical means will in suitable cases supersede all other operations on the gall-bladder.

*Entero-enterostomy.*—In treating this subject I will only consider the methods that have been employed and reported in operations in the last six years. These methods I will arrange as in the previous classification: (1) simple suture, (2) mechanical means, and (3) suture with mechanical aid. The pathological conditions which create the necessity for a resection of a portion of the bowel are of three classes; the order of frequency in which they occur is: (1) strangulated hernia; (2) ileus—intestinal obstruction; (*a*) strangulation, (*b*) obturation; (3) intestinal perforation; (*a*) traumatic, (*b*) pathological; and (4) neoplasms. There will always be a considerable percentage of mortality from the intrinsic dangers of the pathological conditions, aside from the defects of the means employed for their relief. Therefore the problems to be solved are: (1) how can we reduce the intrinsic dangers of the disease? and (2) how can we minimise the difficulty and danger of the operative procedure, *per se?* In order to decide the first problem—that is, the intrinsic danger—the subject of diagnosis must be considered, as the dangers of the disease depend in a large measure upon the failure of early diagnosis. This is particularly true of ileus, and I feel constrained to further emphasise in connexion with this subject the imperative importance of early and accurate diagnosis, as the result in operations of this class depends more than in any other upon an early recognition of the pathological condition. The difficulty of making a positive diagnosis of the pathological lesion producing the obstruction has been materially diminished by our modern advancements, but is not generally understood or practised. This necessarily increases the danger to the patient, as the operation is postponed until extreme symptoms manifest themselves. There is only one way to obtain good results in ileus—that is, by early diagnosis and operation. In this we must consider every case of ileus as we would an acute strangulated hernia. We know that an early operation for strangulated hernia admits of a much more favourable prognosis than one which is delayed until the intestine is gangrenous. How much more important is it that the early operation should be performed in internal strangulation where a gangrene would take place within the peritoneal cavity. Expectant treatment in abdominal lesions is only justifiable when the diagnosis of intestinal obstruction is positively excluded. The only rational outcome to expect from so-called conservative treatment of ileus is death. The differential diagnosis of intestinal obstruction is not very difficult to make if the symptoms have not been masked by the use of opiates.

There are two symptoms, upon which great reliance can be placed, for the differential diagnosis between ileus and perforative peritonitis. 1. In the early stage of perforative peritonitis there is an elevation of temperature; in intestinal obstruction no elevation of temperature. 2. In perforative peritonitis there is a paralysis of peristalsis over the inflamed area; in intestinal obstruction there is a very great increase in the peristalsis, which continues until necrosis of the bowel takes place or a peritonitis is developed. Frequent

auscultation of the abdomen as an aid to diagnosis of intestinal obstruction is of as much value as auscultation of the chest in arriving at a diagnosis in pulmonary diseases. With the stethoscope, or ear, upon the abdomen in the early stage of intestinal obstruction, there is heard a constant rumbling and rolling of the contents of the intestine and manifestations of stormy peristaltic action. These manifestations are most marked at the seat of obstruction, and, indeed, the location of the obstruction can frequently be ascertained by these signs alone. If this peristalsis should momentarily subside, it can be brought on with increased violence by manipulation of the abdomen. A dose of opium will suppress the peristaltic action of the intestine for hours, while a chloroform narcosis does not interfere with it. Therefore no opiates should be given in acute lesions in the peritoneal cavity until the question of diagnosis is decided. In ileus, where active peristalsis has subsided, and cannot be reproduced by pressure, it is an indication that peritonitis has ensued and the prognosis of the operation is proportionately grave. A symptom of importance in obstruction of the bowel is a very circumscribed dulness near or at the seat of obstruction, due to accumulation in the proximal portion of the bowel (Schede, Schlange) and a meteoric distension of the strangulated loop itself, due to obstructed circulation and decomposition of its contents, producing a rapid, gaseous distension and complete paralysis of the wall (Von Wahl). Kader's experiments show that the distension of the strangulated loop is not due to gas and intestinal contents forced into the loop from the proximal side, as was formerly supposed, but is principally due to disturbances of the circulation in the intestinal wall, and consists of a uniform expansion of the entire intestine, which is produced by (1) thickening of the wall; (2) accumulations of fluid; and (3) development of gas from fermentation within the loop. This condition he produced experimentally by ligation of the mesenteric vessels; after a ligature of the intestine on the proximal side of the portion in which the circulation was obstructed, the distal end being free, still the intestine dilated. This has great bearing in all operations of intestinal approximation, as it accounts for the paralysis and distension occurring where a greater portion of the mesenteric side of the bowel is removed than on the convex side. It will be admitted that a definite diagnosis of the *pathological condition* producing the obstruction may not be possible, but that does not prevent us from operating. Waiting will not help the patient, or even assist in making the diagnosis, and every hour lessens the patient's resistance and increases local destruction or necrosis. Still, every day we meet with cases in which this policy of procrastination is pursued until the patient is moribund; finally, and unfortunately too often, we are forced to operate under just these unfavourable circumstances. When we operate under these conditions, are we warranted in abandoning the search for the cause of obstruction and its removal, for the establishment of an artificial anus? I think not. Saltzman states that laparotomies for ileus, with removal of cause of obstruction, up to 1883 had a mortality of 71·3 per cent.; simple enterotomy, without removal of cause, 67·3 per cent. So hopeless were the results of laparotomies with the removal of cause, that such surgeons as Mikulicz, Schede, and Shoenborn, who were formerly strong advocates of this operation, abandoned it for simple enterotomy to relieve the obstruction. The indications for the latter operation they attempted to extend, even with a slight percentage in its favour and the comparative certainty that a second operation would be necessary. The establishment of a fæcal fistula in this class of cases should be permitted only as a last resort in a profoundly collapsed patient, as we have now means at hand of removing the necrotic intestine and re-establishing its continuity in a much shorter time than a fæcal fistula can be formed. The more acute the attack and persistent the pain, the more pronounced the collapse, the more probable the existence of complete strangulation and local necrosis. There is, however, no positive symptom of necrosis.

If the foregoing principles are adhered to the intrinsic dangers of intestinal obstruction can be reduced to a minimum.

The operation of lateral approximation (anastomosis proper) is distinctly a modern operation, as it was first successfully performed by Von Hacker of Vienna in 1886. It rapidly gained adherents on account of the great mortality following the operation of circular enterorrhaphy, and on account of the many mechanical devices that were brought forward about that time, which were intended to simplify the operation (such as the plates used so extensively by Dr. Senn) and on account of the larger aperture that could be secured by the lateral suture. The objections to this operation after resection are: 1. The amount of time and labour required, as both ends have to be closed with two rows of sutures, each row at least an inch long, necessitating four inches of suturing for the end, no matter what method may subsequently be used for the lateral apposition; then the approximation plates, or button, are inserted. If the suture be used it is advised (Abbe) that an opening four inches long be made and around this be placed one row of Czerny and two rows of Lembert sutures; these rows will average about ten inches each, which, with the four inches of suturing required to close the ends, make thirty-four inches of suturing. For each inch four to six stitches are required, making a total of 136–204 stitches. An expert operator is able to do this operation in a comparatively short time, as Abbe has done; but how long would it take the average operator? 2. The danger of necrosis of the inverted portion at some point over this long space, which objection is of very small moment. 3. The danger that one of the many stitches might penetrate the thin mucosa, as they must all include the tunica propria upon which it rests and be exposed in the calibre of the bowel, producing stitch abscess (as in W. Rindfleisch's cases). 4. The broad cicatricial mass and the one-half inch of surface-approximation produced by these three rows of sutures might be expected to contract, as there is no juxtaposition of the incised edges of the various coats of the intestine. This is shown in the case of Salzwedel, lateral approximation of intestine with suture, and still it is the *only* case we found of post-operative stenosis of the intestine, showing that it is of very rare occurrence.

*End-to-side approximation.*—There are two places in the intestinal tract where this operation should always be given the preference: 1. In resection for cicatricial occlusion of the pylorus the end of the duodenum should be joined to the side of the stomach. 2. Resection of the cæcum in adults on account of the inequality of size of colon and ileum. In the first case the food is allowed to enter the intestine in about its normal position, and duodenal digestion progresses about the same as if no operation had been performed; of still greater importance is the fact that by this method the bile and pancreatic secretions are not permitted to enter the stomach and cause such grave disturbances as are reported to have occurred (Dr. Heinrich Braun). End-to-side approximation has no other legitimate place in surgery of the small intestine after resection.

*End-to-end approximation.*—I note from the reports of cases in the last six years 134 intestinal approximations by all methods, of which 49 were end-to-end, 61 side-to-side, and 24 in which the position of approximation was not stated. Of these, 44 cases were those of intestinal approximation for acute obstruction, with 15 deaths (mortality 34·1 per cent.); for chronic obstruction 43 cases, with 12 deaths (mortality 27·9 per cent.); making a total, for obstruction, of 87 cases, with 60 recoveries and 27 deaths (a mortality of 31 per cent.). The methods employed in acute obstruction were: suture 23, deaths 10 (mortality 35·6 per cent.); mechanical means 13, deaths 3 (mortality 23·1 per cent.); and suture with mechanical aid 3 cases, with 2 deaths (mortality 66·7 per cent.). The methods employed in chronic obstruction were: suture, 28 cases, 9 deaths (mortality 32·1 per cent.); mechanical means, 13 cases, 2 deaths (mortality 15·4 per cent.); and suture with mechanical aid, 2 cases, with 1 death (mortality 50 per cent.). The total number of intestinal approximations for closure of artificial anus was 35, with 6 deaths and mortality 17·1 per cent. Of these, 24 were cases of suture, with 5 deaths (mortality 40·8 per cent.); 7 were treated by mechanical means, with 7 recoveries; and 4 by suture with mechanical means, with one death (mortality 25 per cent.). End-to-end approximation of the bowel is the most desirable position, as it most closely approaches the natural condition. Surgeons have always regarded the end-to-end as the ideal approximation. This was only deviated from with the hope of reducing the great mortality that resulted from the methods heretofore employed. Has this deviation accomplished the desired result? Our statistics answer, No. In 49 cases of end-to-end approximation by all methods the above statistics show a mortality of 16·3 per cent., while in 66 lateral approximations by all methods the mortality was 31·8 per cent. The results of lateral approximation, therefore, show a mortality about 100 per cent. higher than that of end-to-end approximation. Paul remarks that "end-to-end is preferable to lateral union, if it can be obtained with equal safety." The objections

raised to the circular suture are, firstly, the time consumed; secondly, the possibility of perforation in parts not covered with peritoneum (mesenteric attachment); thirdly, the large number of sutures, and the liability that some of them would go through the entire thickness of the bowel and produce peritoneal infection; fourthly, with the invagination method there is the additional danger of post-operative progression of the invagination, finally producing obstruction; and, fifthly, the danger of obstruction from contraction of the necessarily broad cicatrix. While these objections have force against the end-to-end approximation by suture, not one of them is valid against the use of the button.

The first objection raised to the button was that it is a foreign body in the intestinal tract and might cause obstruction. This accident has not occurred in one of the sixty cases operated upon, nor has it taken place in over 300 experiments, nor will it occur except where there is a pathological contraction of bowel. The second objection, that the necrosis of the tissue within the clasp of the button would be a source of danger, is purely mythical, as the bowel is securely sealed, *par excellence*, by this method. Infection has not occurred in a single case. The third objection, that the small surface of apposition would not prove adequate in the protection of the peritoneal cavity, has as little basis as there is for believing that the wall of the intestine itself is not strong enough to protect the peritoneum, as pathologists show that the intestine at the seat of approximation can scarcely be differentiated from the normal intestine. I have received no information, nor do I know of a case in which there was a failure of union by the button, nor do I believe that such failure will occur except where there is a septic peritonitis due to infection from without. The contraction of three-eighths of an inch in the opening reported by Keen in his case is in unison with the contraction of the bowel from its previously distended condition, and should be expected under these circumstances; but there is no proof that the contraction would have continued to complete closure as occurred with the bone-plates. Two years have elapsed since the first operation with the button, in many others over a year, and in a still greater number a shorter period of time. I have received recent reports on most of these cases, and stenosis has not occurred in a single one.

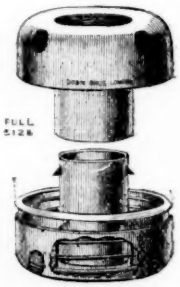
[Clinical synopses of 34 cases of intestinal approximation by means of Murphy's button were given, showing the results obtained in support of the writer's conclusions.]

*Conclusions.*—1. The more rapidly the operation is performed the less the danger from shock. 2. The less the manipulation and exposure of the intestine, the less the danger of infection, post-operative paralysis, and adhesions. 3. The more uniform and continuous the pressure at approximation, the greater the assurance of adhesion, and the less the liability of infiltration. 4. A line of approximation is as good as half an inch. 5. Mechanical means in the last six years have produced better results than the suture in both lateral and end-to-end approximations. 6. The mortality in end-to-end approximation is much less than in lateral apposition, and it should always be given the preference. 7. The more perfect the juxtaposition of the various layers, the less the interposition of fibrous tissue and the more complete the regeneration across the line of union. 8. The more extensive the approximation surface, the larger the fibrous deposit, the greater the contraction. 9. The contraction with end-to-end is less than with lateral approximation. 10. The juxtaposition of the similar histological layers of the wall of the intestine is an assurance against cicatricial contraction. 11. The *modus operandi* of the button is based upon the following principles: firstly, it retains apposition automatically—that is, without suture; secondly, union of tissue is produced at the line of pressure atrophy; thirdly, the pressure atrophy is produced by elastic pressure; fourthly, it produces juxtaposition of the edges of the same coats; fifthly, the union is accomplished by the smallest possible cicatrix and therefore must yield the least contraction of any operation; and, sixthly, the rapidity of application gives all the advantage that the saving of time can accomplish.

The following is the technique of insertion of the button.

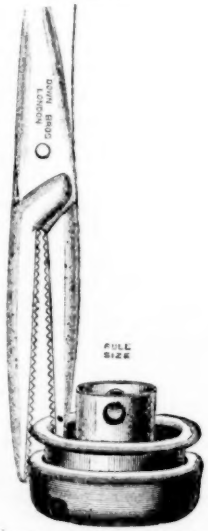
1. *Cholecystenterostomy.*—An incision is made from the edge of the ribs, two inches to the right of and parallel to the median line, extending downwards three inches. The gall-bladder and duodenum are drawn into the wound; a needle with fifteen inches of silk is inserted in the duodenum directly opposite the mesentery, and at a point near the head of the pancreas; a stitch is taken through the entire wall of the bowel, one-third the length of the incision to be made; the needle is again inserted one-third the length of the incision, from its outlet, in a line with the first, and embracing the same amount of tissue as the first. A loop three inches long is held here, and the needle is inserted in a similar manner, making two stitches parallel to the first in the reverse direction, and one-fourth of an inch from it, coming out at a point near the original insertion of the needle. This forms the running thread, which, when tightened, draws the incised edge of the bowel within the cup of the button. A similar running thread is inserted in the gall-bladder. An incision is now made in the intestine two-thirds the length of the diameter of the button to be used; avoid cutting the running thread when making the incision. The button is slipped in, and the running thread is tied firmly around the central cylinder; an assistant holds the button in position with the hæmostatic forceps. An incision is now made in the gall-bladder, the same length as the one in the intestine, between the rows of suture. The gall-stones and fluid contents of the gall-bladder are removed, the button is inserted, and the running thread is tied. The forceps are then removed; the button is held between the fingers and slowly pressed together. (Fig. 4.) Note that the edge of the wound comes entirely within the clasp of the button before it is completely closed. A sufficient degree of pressure must be used to bring the serous surfaces of the gall-bladder and intestines firmly in contact and compress the tissues. The elastic pressure of the spring cup of the button produces a pressure atrophy of the tissues embraced

FIG. 1.



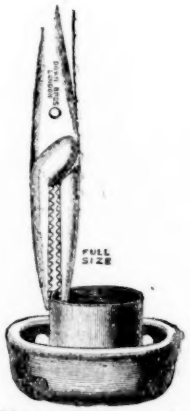

Anastomosis button.

FIG. 2.




Showing method of holding elastic cup for insertion.

FIG. 3.

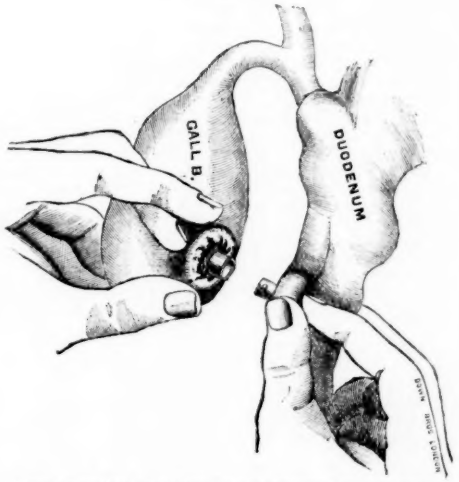



Method of holding female half of button for insertion

by it and leaves an opening larger than the button. When the button is liberated it passes on through the bowel.

2. *Pylorectomy.*—Having drawn the pylorus into the abdominal wound, ligate the greater and lesser omenta and cut them off; then make a circular incision on a grooved

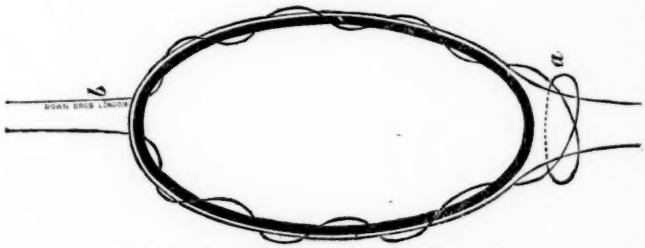
FIG. 4.




Showing method of holding parts while approximating button in cholecystenterostomy.

director, with the scissors cutting through the muscular and serous coats down to the mucous coat, completely around the stomach where it is to be excised; next denude the mucous membrane of its muscular and serous coats for half an inch in the direction of the fundus; excise the mucous membrane at this point; close the mucous membrane with continuous catgut suture, and over this the serous and muscular coats with interrupted silk suture. The end of the stomach is

FIG. 5.

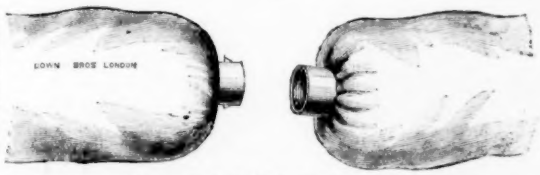



Suture of running thread as placed in end of bowel.

now completely closed. Excise the duodenum an inch and a half below the pylorus, insert a running thread as described below under the head of "end-to-end approximation," and place the male half of the button in position. The female half of the button is inserted in the posterior wall of the stomach two inches from the line of suture, in the same manner as it is inserted in the gall-bladder. The forceps are removed, and the button is pressed together. The end of the duodenum is then joined to the posterior wall of the stomach. The button liberates itself and passes on through the bowel.

3. *End-to-end approximation.*—The intestine is cleared of its contents, and the intestinal compression clamps are placed in position. The mesentery of the portion to be excised is ligated; the intestine is excised; a running thread is placed in position by a top stitch along the excised edge, beginning opposite the mesentery and continuing down to the mesentery, one return over-stitch is taken at the mesentery (see Fig. 5, *a*); and then the top stitch is continued up the opposite side to the starting point; this constitutes the "puckering string" and when tied around the stem of the button, which is then inserted, draws the cut edge within the clasp. Particular attention should be given to the return over-stitch at the mesentery, so that both layers of the peritoneum overlap. The other half of the button is inserted in the same manner, and the button is then pressed together. (Fig. 6.)

FIG. 6.

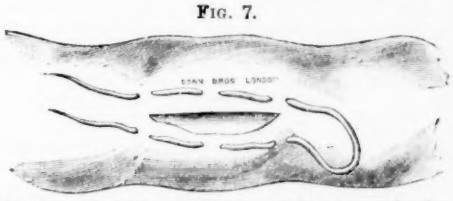


Button in end of bowel ready for closing.

I advise the use of a special size button, one and a half inch in diameter, for the end-to-end approximation of the large intestine. It is more easily applied and has a larger central opening for the temporary passage of fæces.

4. *Lateral approximation.*—The button in the lateral approximation is inserted in the same manner as described in

FIG. 7.



Showing method of introducing sutures in lateral approximation, and relative size of incision.

cholecystenterostomy. The spring cup is held down to the edge of the bowl by a forceps, as shown in Fig. 2, while the button is being inserted. As soon as the button is in position change the hold by grasping it at the edge of the cylinder, and then tie the running thread. Do not make the incision too long, not more than two-thirds the diameter of the button; it will stretch. (Fig. 7.) Grasp the wall of the intestine at each end of the incision with tissue forceps while inserting the button. Do not cut the running thread when making the incision. Do not enclose too much tissue in the suture. When closing the button be sure that the incised edge is always within the clasp of the button. Do not use a Lembert suture with the button; it is useless. It is not necessary to abrade the peritoneum.

[Dr. Murphy appended numerous tables to his paper, showing the results obtained in intestinal approximation by various methods; of these tables the most remarkable is one relating to the use of Murphy's button in cholecystenterostomy in non-malignant cases, whereof twenty-two patients all recovered.]

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PRESENTATIONS.—On the occasion of the distribution, at the town-hall, Batley, on Monday last, of certificates and medallions to the successful members of the classes in connexion with the Batley Section of the Heavy Woollen Centre of the St. John Ambulance Association, Dr. Alfred Swann was presented with a handsome marble timepiece and pearl-handled knife, and at the same time Mr. John Hall Woods was the recipient of a sum of money, which he generously handed to the mayor of the borough (who presided), with a request that it should go to the funds of the Batley Cottage Hospital.—Mr. H. T. Benson has been presented by the Market Deeping and District Ambulance Classes with a silver tankard and cigarette-case, inkstand, and silver knives.

# DIABETES AS A SEQUELA OF INFLUENZA.

BY R. BROADBENT, M.D. EDIN.

Of the various sequelæ to influenza perhaps none are of such interest as diabetes, and the paucity of literature on the subject may give weight and interest to the following record. Dr. Saundby mentions two such cases in his Croonian Lectures, and Mr. Hoysted has published a case in THE LANCET[1] which at first proved specially amenable to treatment and led him to suggest that such cases might be peculiarly amenable to treatment. But this prognosis appeared to be too favourable and premature, for in a later communication he tells us that the case did not ultimately recover. A further case was published[2] which appeared to confirm the first impression given by the above case, as the diabetes occurred in a boy aged fifteen and was apparently cured. There may be a difference of opinion as to the connexion between the diabetes and influenza—as to whether it is *post hoc* or *propter hoc*—but the association is a matter of clinical interest, and I venture to think that the influenza is responsible for the diabetes. In the following record I would draw attention especially to the history of the case in the light of the age of the patient, its relation to influenza, and the result of treatment.

A girl aged four years and four months was brought to me on Sept. 26th, 1890, presenting all the symptoms of diabetes, which diagnosis was confirmed by an examination of the urine. The family history was excellent, and the child was well-developed and had a healthy appearance. The child had had good health until a fortnight earlier, when she had a sharp attack of influenza, and the diabetic symptoms had commenced a few days after the subsidence of the influenza. A few days later she became markedly jaundiced, but this quickly passed off. The disease has run a most unusual chronic course, and I give the present condition of the child, three years after the commencement of the illness. She is not thin, but there has been some loss of flesh, and the muscles are more flabby than at the outset of the illness. She is languid and pale and has sometimes a look of exhaustion. The hair is fair in colour, is not rough, and has not lost its glossy appearance. The skin is dry. The knee-jerks are diminished. The vision is good. The appetite has greatly increased. Constipation is severe. Examination of the abdomen reveals no abnormality in the pancreatic region. There is no enlargement of the liver. In 1890 the teeth were sound and well-shaped; at the present time four sound teeth in each jaw are all that are left. Neuralgia is severe. The thoracic organs are healthy. The body weight has constantly varied, and the increase has not been in proportion to the child's growth. (See Table I.)

TABLE I.—*Weight of the Child.*

| 1892. | | 1893. | |
|---|---|---|---|
| August 9th | 37 lb. | January 11th | 41 lb. |
| ,, 27th | 38 ,, | ,, 15th | 39 ,, |
| September 17th | 37 ,, | February 1st | 41 ,, |
| October 1st | 39 ,, | ,, 4th | 41½ ,, |
| ,, 8th | 39 ,, | ,, 7th | 40 ,, |
| ,, 20th | 40 ,, | ,, 11th | 40½ ,, |
| November 2nd | 40 ,, | ,, 15th | 41 ,, |
| ,, 14th | 40 ,, | March 13th | 42 ,, |
| ,, 19th | 39 ,, | ,, 18th | 43 ,, |
| ,, 28th | 39½ ,, | ,, 22nd | 42 ,, |
| December 10th | 40 ,, | April 8th | 40½ ,, |
| ,, 13th | 40 ,, | | |
| ,, 22nd | 41 ,, | | |

The specific gravity of the urine has varied as constantly as the amount of urine passed, or the amount of sugar, but there does not appear to be any direct relation between these variations. For instance, on Feb. 21st, 1893, the specific gravity of the urine was 1042, and the amount of sugar passed was 100 parts per 1000. On Aug. 25th, 1892, the specific gravity was the same, but the sugar passed was 58 parts per 1000. Sugar has invariably been present, albumen never.

The details of the case as to the amount of urine and sugar passed will be seen in the following table, as also the specific gravity of the urine, the percentage of urea when taken, and the treatment indicated, since August, 1892.

[1] THE LANCET, April 2nd, 1892.
[2] THE LANCET, Jan. 21st, 1893.

TABLE II.

| Date. | Treatment. | Urine in ounces. | Sp. gr. | Sugar (parts per 1000). | Percentage of urea. |
|---|---|---|---|---|---|
| 1892. | | | | | |
| Aug. 5 ... | Restricted diet; no drugs. | 100 | 1040 | 58·82 | — |
| ,, 6 ... | Ditto. | 111 | 1039 | — | ·4 |
| ,, 9 ... | Ditto. | 104 | 1040 | 43·46 | ·5 |
| ,, 11 ... | Codein, ¼ gr. quat. die. | 110 | 1039 | 54·04 | ·35 |
| ,, 13 ... | Ditto. | 108 | 1035 | 43·44 | ·35 |
| ,, 16 ... | Ditto. | 106 | 1035 | 44·44 | — |
| ,, 18 ... | Ditto. | 108 | 1030 | 40·8 | ·4 |
| ,, 23 ... | Ditto. | 103 | 1025 | 44·44 | — |
| ,, 25 ... | Ditto. | 98 | 1042 | 58·8 | — |
| ,, 27 ... | Codein, 2 gr. daily. | 97 | — | — | — |
| ,, 28 ... | Ditto. | 108 | 1040 | 45·44 | ·55 |
| Sept. 1 ... | Ditto. | 102 | 1044 | 33·32 | — |
| ,, 5 ... | Codein, 3 gr. | — | — | — | — |
| ,, 7 ... | Ditto. | 98 | 1040 | 45·44 | — |
| ,, 10 ... | Ditto. | 94 | 1043 | 40·0 | — |
| ,, 11 ... | Codein, 4 gr. | — | — | — | — |
| ,, 13 ... | Ditto. | 94 | 1039 | 33·32 | — |
| ,, 15 ... | Ditto. | 94 | 1042 | 40·0 | — |
| ,, 17 ... | Ditto. | 92 | 1035 | 37·02 | — |
| ,, 20 ... | Ditto. | 92 | 1029 | 33·32 | ·4 |
| ,, 21 ... | Codein, 5 gr. | — | — | — | — |
| ,, 22 ... | Ditto. | 92 | 1035 | 50·0 | — |
| ,, 27 ... | Ditto. | 90 | 1040 | 44·44 | — |
| ,, 28 ... | Codein, 6 gr. | — | — | — | — |
| Oct. 1 ... | Ditto. | 91 | 1033 | 47·60 | — |
| ,, 5 ... | Ditto. | 89 | 1038 | 56·12 | — |
| ,, 6 ... | Codein, 7 gr. | — | — | — | — |
| ,, 8 ... | Ditto. | 89 | 1039 | 55·52 | — |
| ,, 13 ... | Codein, 8 gr. | — | — | — | — |
| ,, 15 ... | Ditto. | 92 | 1040 | 52·64 | — |
| ,, 18 ... | Ditto. | 96 | 1042 | 71·40 | — |
| ,, 20 ... | Ditto. | 93 | 1041 | 71·40 | ·5 |
| ,, 21 ... | No drugs. | — | — | — | — |
| ,, 27 ... | Opium, 2 gr. | 95 | — | — | — |
| ,, 29 ... | Ditto. | 95 | 1032 | 50·0 | — |
| Nov. 2 ... | Ditto. | 96 | 1030 | 58·8 | — |
| ,, 3 ... | Opium, 3 gr. | — | — | — | — |
| ,, 5 ... | Ditto. | 92 | 1039 | 58·8 | — |
| ,, 9 ... | Ditto. | 93 | 1034 | 66·64 | — |
| ,, 10 ... | Opium, 4 gr. | — | — | — | — |
| ,, 14 ... | Ditto. | 94 | 1034 | 66·64 | — |
| ,, 16 ... | Ditto. | 96 | 1039 | 76·92 | — |
| ,, 17 ... | Opium, 5 gr. | — | — | — | — |
| ,, 19 ... | Ditto. | 90 | 1041 | 83·32 | — |
| ,, 21 ... | Ditto. | 94 | 1034 | 71·40 | — |
| ,, 23 ... | Opium, 6 gr. | — | — | — | — |
| ,, 26 ... | Ditto. | 94 | 1043 | — | — |
| ,, 27 ... | No drugs. | — | — | — | — |
| ,, 29 ... | Ditto. | 92 | 1033 | 58·80 | — |
| Dec. 3 ... | Ditto. | 95 | 1038 | 60·60 | — |
| ,, 10 ... | Ditto. | 94 | 1039 | 74·04 | — |
| ,, 14 ... | Ditto. | 94 | 1030 | 62·48 | — |
| ,, 15 ... | Codein, 3 gr. | — | — | — | — |
| ,, 21 ... | Codein, 4 gr. | — | — | — | — |
| ,, 23 ... | Ditto. | 96 | 1036 | 62·48 | — |
| 1893. | | | | | |
| Jan. 4 ... | No drugs. | 92 | 1044 | 86·92 | — |
| ,, 11 ... | Ditto. | 98 | 1036 | 66·64 | — |
| ,, 13 ... | Ditto. | 98 | 1045 | 80·0 | — |
| ,, 20 ... | Ditto. | 97 | 1040 | 66·64 | — |
| ,, 26 ... | Pancreatic gland. | — | — | — | — |
| ,, 30 ... | Ditto. | 94 | 1034 | 68·96 | ·25 |
| ,, 31 ... | Liq. pancreaticus, 6 drm. daily. | — | — | — | — |
| Feb. 1 ... | —— | 94 | 1030 | 58·80 | — |
| ,, 4 ... | Liq. pancreaticus, 4½ drm. daily. | — | — | — | — |
| ,, 7 ... | —— | 94 | 1040 | 66·48 | — |
| ,, 9 ... | Liq. pancreaticus, 4½ drm. daily. | 98 | 1041 | 80·0 | ·65 |
| ,, 11 ... | Ditto. | 94 | 1042 | 66·64 | — |
| ,, 15 ... | Ditto. | 94 | 1040 | 74·04 | ·5 |
| ,, 17 ... | Ditto. | 93 | 1035 | 90·88 | — |
| ,, 21 ... | Liq. panerobilin. | 91 | 1042 | 100·0 | — |
| ,, 27 ... | Ditto. | 91 | 1040 | 80·0 | — |
| March 2 ... | Ditto. | 89 | 1040 | 80·0 | ·55 |
| ,, 13 ... | Ditto. | 87 | 1032 | 100·0 | ·37 |
| ,, 15 ... | Left off pancrobilin. Treat. *ut.* | — | — | — | — |
| ,, 18 ... | No drugs. | 86 | 1030 | 66·64 | — |
| ,, 19 ... | Opium, 1 gr. per day. | — | — | — | — |
| ,, 21 ... | Ditto. | 86 | 1033 | 64·48 | ·45 |
| ,, 22 ... | Opium, 1½ gr. per day. | — | — | — | — |
| ,, 25 ... | Ditto. | 87 | 1029 | 47·00 | — |
| April 1 ... | No drugs. | 93 | 1033 | 76·92 | ·35 |
| ,, 3 ... | Ditto. | 86 | 1036 | 83·32 | — |
| ,, 11 ... | Opium, 2 gr. per day. | 83 | 1032 | 66·64 | — |
| ,, 12 ... | ,, 3 gr. ,, | — | — | — | — |
| ,, 14 ... | ,, 3 gr. ,, | 85 | 1035 | 76·92 | ·45 |
| ,, 15 ... | ,, 4 gr. ,, | 83 | 1030 | 60·60 | ·46 |
| ,, 21 ... | ,, 5 gr. ,, | 81 | 1032 | 76·92 | — |
| ,, 24 ... | ,, 6 gr. ,, | 79 | 1030 | 62·48 | ·35 |

Of the complications which have supervened, bronchitis has on three occasions caused some anxiety; eczema genitale has been present from the outset, and urticaria occurred once. But I wish to draw attention to the treatment. The diet was restricted from the first, and one consisting principally of nitrogenous material was ordered, with green vegetables and gluten bread. Unfortunately it was found impossible to keep the child on this alone; a little white bread was subsequently given daily, although this was restricted as far as the mother's feelings would allow her. Observations on the amount of sugar passed would be valueless if the diet was changed from day to day; but, although the diet was not restricted as much as one could wish, it remained fairly constant, so that variations in the amount of sugar passed may be regarded as bearing a direct relation to the medicinal treatment adopted. This case has been specially adapted for making observations, as it has run a steady, chronic course. In diseases which have an invariable tendency downward, such as diabetes in children, any variation is usually attributed to the treatment. All observations of a lengthy character hitherto made as to the value of drugs in diabetes have been made on adults. There is at least one fact emphasised, and that is that the true index as to the state of the child has been rather the general appearance, its activity, and condition of nutrition than the exact amount of sugar in the urine. And one fact as to opium: whilst it had no effect in checking the amount of sugar passed, it never had any soporific effect. When the child first came for treatment, it being only four years of age, a quarter-grain of opium was given four times a day in the form of a pill, which the child took well: the opium was subsequently pushed, and in November, 1892, six grains of opium were being taken per day, and there was then no usual sleepiness and no marked contraction of the pupils, but headache was constant and severe; and for this reason, when it had reached six grains per day it was discontinued. In the case of codein eight grains were taken without any soporific effect being observed. Ever since Professor Fraser's publication in January, 1889, there has been doubt as to the alleged superiority of codein to opium in diabetes. Observations have been made on this case for three years, but for nine months they have been of a detailed character, in which the amount of sugar passed has been at intervals of two or three days carefully made and recorded, but it cannot be said that the result has been of so definite a character as one could wish for; neither opium nor codein materially reduced the amount of sugar, although these substances were pushed to an enormous extent, considering the age of the patient.

I will not repeat all the details of the observations made, but be content with a brief summary. In order that the value of codein might appear apart from any effect due to previous treatment during the month of July, 1892, and the first ten days of August, no treatment whatever was ordered, with the exception of moderate restriction in diet; then on Aug. 11th a quarter of a grain of codein was given four times a day and continued till Aug. 27th, when it was increased to two grains per day. On Sept. 11th this was increased to four grains per day, on the 21st to five grains, and on the 28th to six grains per day, till on Oct. 13th eight grains were given daily, and this was continued till the 20th. When the dose had reached eight grains it was considered unwise to increase it, especially as no material benefit had been experienced, although, on the other hand, no bad effect had been produced, the greatest inconvenience being severe headache. The average amount of sugar passed whilst one grain was given was 45·99 parts per 1000; when four grains were given daily this amount had been reduced to an average of 35·91 parts per 1000; when this amount was increased no corresponding diminution in the amount of sugar took place. Then an interval of seven days was allowed, during which no medical treatment was pursued. On Oct. 27th one grain of opium was given twice a day, increased to three times a day on Nov. 3rd, to four times a day on Nov. 9th, to five grains daily on Nov. 16th, and to six grains per day on Nov. 23rd. The result of the opium treatment was that the child appeared better in itself, being more cheerful, but not at all sleepy, as one would have expected, but the headache became severe, and the amount of sugar increased.

The result of the comparison of the two drugs, codein and opium, in this case tends to favour the view that the former is not less potent than opium in reducing the amount of sugar passed in diabetes of children. It is singular that such quantities of these drugs should have no soporific effect in a child of this age; but, in order to avoid any fallacy arising from the use of opium defective in quality, in the second series of observations made in April last the opium was obtained from a different source, but with a similar result.

In the beginning of the present year some cases of diabetes were reported in the medical journals, with the result of treatment by the pancreatic juice. These reports were not of a conclusive character, but the improvement observed in the general condition of some of the cases seemed to favour a further trial of this treatment. From Dec. 31st, 1892, till Jan. 25th, 1893, no medicinal treatment was pursued in my case. From Jan. 26th to 28th the pancreas of the sheep, after being boiled, was given to the child with the liquor in which it had been boiled; about six ounces were given per day, but on the 28th it was discontinued because it became so nauseous to the child, making it vomit. On Feb. 1st liquor pancreaticus was commenced and continued till the 16th. Subsequently I tried a new preparation consisting of bile and pancreatic secretion (liquor pancrobilin). The effect has been to corroborate the statements of previous observers; the patient appeared to improve in health, she seemed brighter, the thirst was not so great, and the amount of urine passed was less, but there was no corresponding diminution in the quantity of sugar passed; it, in fact, increased from 68·96 to 100 parts per 1000. At no time did the patient pass so much sugar as she did under the pancreatic treatment.

To conclude, I think the very unusal history of the above case will sufficiently vindicate its publication, and I only have to add that since ceasing to treat the case with drugs in April, 1893, the condition of the patient has remained *in statu quo*.

Leicester.

## ROTATION OF THE SPLEEN; REMOVAL; RECOVERY.

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IN the early part of the year I recorded briefly in THE LANCET[1] a case of Axial Rotation of the Spleen and noted the fact of its removal with success. The subsequent history is sufficiently interesting to warrant some further details being published. The patient, a small, spare woman thirty years of age, was admitted into the General Hospital, Birmingham, on Dec. 31st, 1893, with the following history. She had been married ten years, and had had four children and no miscarriages; her last labour was sixteen months ago. Menstruation was normal. She had a marked scar on the forehead, stated to be due to an abscess after a fall eight years ago. On the left tibia there was also an irregular depressed cicatrix, which, she stated, was the remains of a "lump" which gathered and left a sore place six years ago. The family history was negative. Some months previously she first noticed a swelling in the left side below the ribs; it was movable and painless. It increased in size rapidly, spread over the middle towards the right side and lower down, but it did not give rise to any special inconvenience. On Dec. 25th, without any previous effort or injury, she was seized with severe pain in the abdomen, vomiting, and prostration, which continued with little or no relief until her admission to hospital. On examination the abdomen was found to be distended, being very tender to the touch; she complained of much pain all over it. Occupying the lower part of the abdomen, chiefly on the left side, was a dense, firm swelling with a uniform surface, very sensitive to palpation; it could be traced above the umbilicus and upwards to the left side, but from the distension of the abdomen could not be marked out in this direction. Below, it passed into the pelvis, pushing the uterus backwards; the edge could be felt through the vaginal roof on the left. It appeared to be movable as far as manipulation allowed, and on the right side a margin could be made out. The temperature was 100° F. and the pulse 110; the expression was anxious and the tongue was dry, but there was no albumen in the urine. On Jan. 2nd, 1894, an incision was made in the middle line, when the tumour was found to be the spleen enlarged, purple-coloured, tense, and rotated for half a revolution upon

[1] THE LANCET, Jan. 13th, 1894.

its axis. The pedicle was nearly an inch in thickness, the veins being thrombosed and firm. On attempting to restore the position the twist resumed its abnormal state; there seemed to be a risk of breaking it off. Two thin, strong, prepared silk ligatures were placed round the pedicle without transfixion, and the spleen was cut away. Some omental adhesions were first tied and separated. The abdominal cavity was carefully cleared of about six ounces of red, serous fluid; the wound was closed with silk sutures, and antiseptic dressings were applied. On the following day the temperature was 98·8°, and the pulse was 100. On the fourth day the patient said that she had passed a better night than she had done for many months past. On the sixth day the pulse was 82, the temperature remaining normal. She made an uneventful recovery and left the hospital on Jan. 25th, remarking that she felt much better without her spleen than with it.

Dr. Douglas Stanley, pathologist to the hospital, has kindly furnished a report of his examinations as follows: "The spleen, which weighed 2 lb. 5 oz., was much enlarged, firm, and of a dark colour. The increase in its size was general, so that there was not much alteration in shape, but the notches were very indistinct. The capsule was much thickened. There was a well-marked twist of the vessels, &c., forming the pedicle; it was found that complete thrombosis had occurred so as to make them impervious. Microscopic examination of the spleen showed great engorgement with red corpuscles, the sinuses and meshes of the reticulum being everywhere crowded with them. The fibrous framework and capsule were much thickened. No abnormal elements could be detected. The blood was examined on several occasions; the first estimation was on Jan. 4th, when the numbers per cubic millimetre were: red blood corpuscles, 4,900,000; white blood corpuscles, 10,000. There was little alteration in these figures for some days, and the hæmoglobin likewise maintained a fairly normal reading. On Jan. 17th there were per cubic millimetre: red blood corpuscles, 4,600,000; white blood corpuscles, 15,000—showing that the numerical value of the blood seemed to be practically normal. The patient came to the hospital on March 30th, when the following estimation was made: red blood corpuscles, 5,050,000; white blood corpuscles, 30,000; hæmoglobin, 50 per cent. There was nothing special to be noted in the character of the corpuscles. On the 28th of April, however, another examination was made, when the same increase in the number of white corpuscles was again found, being 30,000 per cubic millimetre, with 4,840,000 red cells. The most remarkable point was the presence in the blood of fairly considerable numbers of large white nucleated corpuscles, varying in diameter from 30$\mu$ to 50$\mu$, in which were contained several red blood cells, in some, twenty or more. In individual ones the red corpuscles appeared to be undergoing a process of disintegration, while small masses of blood pigment could be observed in those where the change was most marked. The last examination was made on May 23rd, when a reduction in the number of red cells was noted, these having fallen to 3,300,000 per cubic millimetre, there being a still more marked number of leucocytes, 50,000 white corpuscles per cubic millimetre."

Birmingham.

## THE NATURE AND TREATMENT OF ASPHYXIA NEONATORUM.[1]

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*Classification.*—We have now to consider an important clinical distinction in the stages of this condition, which has for long been impressed upon observers by experience, and probably upon many who, though struck by the notable difference in the general appearance of these cases, have not investigated in any exhaustive manner the anatomical and physiological factors which underlie asphyxia neonatorum livida and pallida respectively, or the "blue," "apoplectic" or "cyanotic," and the "pale" or "anæmic" cases of apparent death in the newly-born. Barnes divides these cases into three groups, with the first two of which we are at present mainly concerned. These are, firstly, "simple asphyxia," by which he denotes the livid variety, and which he attributes to interrupted hæmatosis or arrest of placental respiration before the establishment of lung respiration. Interrupted hæmatosis doubtless plays an important part in both varieties, but so general a cause cannot account for the fact noted by Cazeau,[2] and generally admitted, that the cyanotic tint is most perceptible in the upper portion of the body, and especially in the face. This is indicative of local anatomical influences. Just as the "intermixture theory" of cyanosis from cardiac malformation has given place in great measure to the "obstructive theory," so also must the *rôle* of defective hæmatosis be a comparatively limited one in the production of the cyanosis met with in the first stage of asphyxia neonatorum. Barnes' second group he terms "paralytic asphyxia," or that in which respiration is prevented by incapacity of the nervous centres. In his third group he includes "atelectasis," due to imperfect development. As "atelectasis" and "apneumatosis" have much the same significance, I presume that Barnes refers in his third group to the persistent atelectasis associated with congenital local defects in the heart or lungs, otherwise the creation of this category is scarcely called for, as atelectasis may be a feature of the two preceding classes; this, however, I say with diffidence, as criticising the classification of one for whose genius I have the most profound respect. Schultze[3] makes the presence or absence of muscular tonus a criterion. It is present in the livid, absent in the pale variety. These he regards as the first and second stages of one condition. The former is with justice regarded as, on the whole, the less serious, but it must be remembered that, although the primary or cyanotic stage may be that from which recovery is most easy, it is undoubtedly also that in which the prospect of recovery from the pale and more grave condition may be determined; for the lung, and possibly other organs, may be so damaged in the first stage in utero, from blood engorgement and extravasation, as to render recovery from the second stage after birth impossible. Although, therefore, the apparently dead "cyanotic" child, and the "pale" child in the same condition, may represent different stages of one kind of disorder, it does not follow that the etiological factors within the fœtus are the same in both cases, and therefore the conditions underlying them may—and, I believe, do—differ. In the earlier stage the child has a more sentient central and local nervous system, more vigour, greater respiratory power, and makes more powerful efforts to breathe. It is, in short, apparently less dead. Hence it diverts the blood current more powerfully lungwards, causing stagnation in a comparatively active afferent circulation from the mother when still attached, which the fœtal heart with diminished outlets (ductus arteriosus and, less probably, foramen ovale) fails to dispose of. Thus it is that congestion with lividity is most evident in those regions in which the fœtal circulation is most active, and which, it must be remembered, are in utero also usually most dependent, as the diagram in my previous article shows.[4] In the more advanced, or pale, stage the nervous system, and with it the heart, have practically given up the struggle; respiratory effort is much feebler, if made at all, and such blood as is derived from the sluggish afferent current when the cord remains uncut, and which still circulates, finds its way unimpeded through the gaping fœtal channels and orifices towards the outlet of the aortic system in the umbilical arteries, or is, in other words, more equally distributed.

Except in the case of cyanosis due to cardiac malformation, the newly born child rarely dies in the livid stage of asphyxia. As a rule it dies pale. It is known that even well-marked cases of true cyanosis become paler after death,[5] just as they frequently become more livid on coughing or on other interruption to respiration during life. Feebleness and death are indeed always paler than preceding conditions of greater vigour and of life; it is not remarkable, therefore, that the post-mortem appearances should be much the same in all fatal cases. Some, even of these, however, such as the lung ecchymoses, represent an ante-mortem phase of more vigorous struggle for life, and, could the child be examined anatomically in this earlier stage, stasis unrelieved through the fœtal channels would be more pronounced than in the

[1] Concluded from THE LANCET of July 7th, 1894.

[2] Gazette Médicale de Paris, 1850, p. 318.

[3] Loc. cit., p. 24.

[4] THE LANCET, Feb. 24th, 1894.

[5] Walshe: Diseases of the Heart, fourth edition, p. 422.

later pallid, and more powerless, stage of this condition. Lividity and pallor, therefore, denote less a total excess or deficiency of blood in the fœtal body than, in the former instance, an unequal, and in the latter a more equal, distribution of it; while the total amount is influenced as much by the arrest of the afferent stream through the umbilical vein as by any loss through the umbilical arteries. Both gain and loss are influenced by the action of the fœtal heart. The heart, which attracts little blood, loses little, and *vice versâ*. In the latter case it can afford to lose more than in the former. As, therefore, the state of the heart's action is the most valuable indication of the vitality of the child, I should feel disposed to divide cases of asphyxia neonatorum into (1) those in which the fœtal channels are narrowed and there is an obstructive plethora of the venous system, with cyanosis; and (2) those in which the resistance of the fœtus has been overcome and the relaxed fœtal channels permit the languid blood stream to find its way without such impediment as to engorge the surface. With anatomical and physiological amplification this is merely a reversion to the oldest division into asphyxia neonatorum livida and pallida, or the "blue" and "pale" varieties of apparent death in the newly born—terms which imply all the other conditions which have been selected by different writers for the purposes of classification.

*Prognosis.*—From the facts already mentioned and the argument based upon them it will be readily understood why in this, as in all other disorders, the prospects of recovery are better in the earlier than in the later stage of asphyxia neonatorum. It has also been mentioned, however, that, even in the earlier stage, should pulmonary conditions arise and blood extravasations in the lungs or elsewhere occur, more especially within the cranial cavity, they may prevent the permanent recovery of the infant even after aerial respiration has been established. The situation of conditions causing intra-cranial pressure is of varying import. It is generally agreed that considerable effusions on the surface of the hemispheres may be tolerated with comparative impunity, while much less at the base of the brain may prove fatal. This agrees with that which must have occurred to many to observe—namely, the great degree of pressure the hemispheres will tolerate when, for example, in forceps delivery, deep impressions have been made upon the skull of the fœtus. I have myself produced such an impression upon the upper portion of one frontal bone from forceps delivery through a kidney-shaped, rachitic pelvis, large enough to have afforded a hen's egg a steady resting-place, without apparently doing the child any harm immediately or subsequently. The impression levelled up. Unless, therefore, it affect a vital part, it does not appear to be so much the *degree* as the *duration* of pressure incurred in the "accidents of childbirth" which seems to influence recovery in these cases. Too great force, even temporarily applied, as in podalic version, may break the fœtal neck, or, similarly, excessive pressure exercised on the fœtal head may determine a fatal issue in cases which might otherwise have survived. To these points I shall have to recur in discussing the preventive treatment of asphyxia neonatorum.

Speaking generally, the best guide to prognosis will be found in an examination and estimation of the cardiac power of the asphyxiated infant. Asphyxia (*a*, privative, and *σφύξις*, the pulse) has in these cases its literal meaning—not suffocation, but *pulselessness*. The degree of pulselessness ascertained by auscultation of the heart is the best guide to prognosis. Barnes[6] remarks that he is unaware "that recovery has ever been established when the heart has ceased to beat." That this should be so in the case of the newly-born infant and not in the case of those with a fully developed aerial circulation, as appears to be the case in some instances of profound syncope, is easily understood when the imperfect aspirative power of the left chambers of the heart in the former is borne in mind. To this point also, as having a very important bearing upon a satisfactory theory of the mechanism of artificial respiration, I shall have to refer when dealing with the treatment of asphyxia neonatorum. The frequency, power, and regularity of the heart's beat must therefore guide us in prognosis. If these be considerable we may augur well of the prospects of the infant, provided no effusion in a critical neighbourhood has taken place or any injury of a necessarily fatal character been sustained during labour. So much for prognosis as to immediate consequences.

The remote effects of asphyxia neonatorum are chiefly those which are understood by the term "atelectasis," but in this category may also with justice be placed some cases of death regarded as due to "naval hæmorrhage." Barnes[7] quotes "Ploucquet, Bandelocque, and others" as having shown that a disposition to umbilical hæmorrhage could be induced by interrupting the respiration of the newly-born child. It is probable also that some of the registered cases of death from "diseases of the respiratory organs" occurring during the first month of life, and a considerable proportion of the large class noted as having died of "atrophy," and some even of those ascribed to "convulsions" and "diseases of the nervous system" within the same period have their origin in the perverted conditions involved in asphyxia neonatorum. It may then be asserted with good reason that the more severe asphyxia neonatorum—the more difficult the removal, that is, of the conditions maintaining this state, whether in lungs, pleuræ, heart, brain cavity, or abdomen—the worse are the prospects of perfect recovery. When violent efforts have been made to breathe by the fœtus in utero the greater is the risk of the aspiration of foreign substances into the bronchi and bronchioles, with permanent occlusion of these, and the greater also the risk of the production in a pronounced degree of the circulatory disorders of which mention has already been made. The duration of the influence of the latter will be in proportion to their severity and situation. Dr. W. J. Little[8] refers some cases of spastic rigidity, paralysis, and idiocy to the remote effects of asphyxia neonatorum.

*Treatment.*—The preventive treatment of asphyxia neonatorum consists, firstly, in promoting the vitality or viability of the fœtus; for, the more vigorous it is, the less likely is it to succumb to the accidents of parturition. Measures directed to this end might, perhaps, be more correctly termed the preventive treatment of *asphyxia nascentium* than of *asphyxia neonatorum*. The next object is to endeavour to avert asphxia when threatened in the course of labour. The former is largely a medical and gynæcological question; the latter entirely one for obstetricians. The vitality of the fœtus in utero may be threatened by those causes which have already been briefly mentioned, and treatment consists in following the indications afforded by them. The anæmic must be fed and given hæmatinics, with or without the addition of chlorate of potassium, in which the experience of some causes them to have faith. Specific treatment with mercurials, iodide of potassium, and iron has frequently yielded good results in syphylitic cases. One remarkable instance of this I have referred to. In addition to the general or constitutional remedies, the correction, so far as possible, or cure, of any local and concurrent disease will demand the attention of the physician by recognised means. In association with such remedies, in the majority of cases, functional and mechanical rest, sometimes for a length of time, will be necessary, and especially in cases in which accidental hæmorrhage shows a tendency to premature separation of the placenta. Shock of every description must also be avoided as far as possible in all cases, and especially in those in which a history of abortion reveals a difficulty in the production of mature children. Into the obstetric question this is not the place to enter in detail. It consists mainly in the care of the umbilical cord if it be jeopardised, and in the timely and skilful delivery of the fœtus. Skill will, in this case, consist of rapidity in delivery without undue force either as affecting the maternal passages or the fœtal body. Among preventable causes Schultze[9] very wisely calls attention to the necessity for caution in the use of ergot in tedious labour, and to the need of the accoucheur being prepared to act promptly should the drug produce its oxytocic effect without a correspondlng rapidity in the birth of the child.

The question of the attendance upon parturient women of midwives is an important one. The convenience to the practitioner having charge of a practice scattered over a wide area of having the assistance of a midwife in whom he has confidence, and who is able to relieve him of personal attendance upon a certain number of normal labours, is, no doubt, very great; but, unless such an assistant be capable, in addition to her other duties, of gauging the state of the fœtal vitality, it may be questioned whether she be not an anachronism in a civilised country. Unless she be capable of using the stethoscope to estimate the condition of the fœtal circulation she cannot be considered as fully equipped for her position. I am not

[6] Obstetric Medicine and Surgery, p. 159.

[7] Op. cit., vol. ii., p. 122.
[8] Transactions of the Obstetrical Society, vol. iii., p. 293.
[9] Loc. cit., p. 32.

aware that she ever possesses this knowledge. The child unborn requires almost as much care as it does after birth. If without such knowledge it be permissible for the midwife to officiate *before* birth, it is certainly illogical to prevent the druggist from prescribing *after* birth. The use of the stethoscope should therefore be a portion of the midwife's training before any registration which may be insisted upon in the future. Now, although it is not impossible that an intelligent woman might learn enough of abdominal auscultation for her purpose, it is questionable whether so partial an education would not be an example of that taste rather than deep draught of the Pierian spring which would render her limited education dangerous rather than useful. If she cannot be sufficiently instructed in this matter (and personally I do not think she can be) a well-organised State should insist upon the services of a fully educated man or woman being alone permissible, who even then should be required to give a certificate of the probable causes of fœtal death when this occurs during labour. Medicine is sufficiently advanced in the present day to make such a demand quite reasonable.

These preliminary considerations apart, the first question which arises in the treatment of asphyxia neonatorum when the newly-born infant is actually in the hands of the physician is, Should the umbilical cord, if pulsating, and with the placenta so far as can be determined still attached to the mother, be divided or left intact so long as the maternal connexion exists? As Barnes[10] says, it is not easy to answer this question absolutely. He mentions an instance in which the fœtus in a case of placenta prævia had to be delivered between the sixth and seventh month, and which had the same acceleration of pulse after respiration, both before and after the cord was severed, and adds: "We here see that placental and aerial respiration were of equivalent value in maintaining the fœtal pulse at ninety." The case, however, appears to be scarcely decisive of this point, for, although the infant was connected with the mother, its extra-uterine respiration was none the less aerial on that account. The case shows rather that the acceleration of the pulse under the influence of respiration was the same whether the child's heart was dealing with blood in its own body or with that in addition which it received from the mother, and some of which it got rid of by the umbilical arteries. Barnes, however, concludes that it is best to divide the cord at once and in any case. Cazeau, in treating the same subject,[11] remarks that some persons have advised that in cases of asphyxia the cord should not be cut until the establishment of pulmonary respiration, but comes to the conclusion that not doing so is at best useless and even hurtful in losing precious time. In the later edition of Cazeau's "Obstetrics," edited by Tarnier and translated by Hess, Cazeau's earlier views remain unqualified; the opinions of these able obstetricians denote, however, a measure of uncertainty, and the question cannot be thus summarily dismissed.

The cardiac ventricle in the fœtus, which is the chief agent in attracting and propelling the materno-fœtal circulation, remains after birth the principal force in filling and emptying the pulmonary circuit. The question then comes to be, What influence will dividing or not dividing the umbilical cord in cases of apparent death in the newly-born have upon the cardiac ventricle? In utero we have mainly to consider the action of the right ventricle, extra uterum that of the left. The earlier the stage of gestation at which birth takes place, the more intimate and persistent is the attachment of the offspring to the parent. In a four months' fœtus aborted alive I have observed active movement cease promptly on dividing the narrow cord. It was literally cutting the thread of life. The point to be settled before anything else is the attachment or detachment of the placenta, and this can usually be rapidly done. If there has been no escape of blood to indicate detachment, and the uterine orifice be not occupied by some portion of placenta or bulging membranes, the after-birth may for a short time be assumed to be still connected with the uterus. Should there be any doubt upon this point, there is obviously no reason for delaying division of the cord. Pulsation in the cord means pulsation of the child's heart. If the cord pulse be good, the heart pulse will be found to be good also; and under these circumstances only in exceptional cases will there be any delay in the establishment of aerial respiration. Even after the full development of the latter, as I have mentioned, the cord may be felt for a time to pulsate fully and vigorously—more fully and vigorously than before respiration, the more capacious left ventricle pumping more blood into it. While the heart pulse is good and the placenta remains attached the inflow through the umbilical vein fully compensates the child for any loss by way of the umbilical arteries.

If the fœtus be born asphyxiated and cyanotic, and the heart and cord pulsate fairly well, the inflow is in excess of the outflow; and this is probably due to the rapid entrance of blood, on hydrostatic principles, being in excess of the disposing power of the fœtal heart. The impediment in such case is in the heart and lungs, for the fœtus has probably attempted to breathe before if not after birth. Under these circumstances the cord must be divided in order to prevent the inflow, and to enable the heart to equalise its income and expenditure it may be allowed to bleed more or less, according to the degree of cyanosis. If the cord pulse be weak and slow, the heart must correspond and needs immediate attention. This condition will not usually be found associated with a cyanotic tint, as enfeebled and slow propulsion means lessened attraction by way of the umbilical vein. Can the heart receive the attention necessary while the child is attached to the mother? When the means necessary for resuscitation of the infant in this condition come to be considered, it will be apparent that this can rarely be done without dividing the funis. In view of the lessened inflow of placentally oxygenated blood it is, therefore, scarcely worth while postponing this operation under these circumstances. Again, on the first evidence of separation of the placenta the cord must be cut and tied if the child be not cyanotic, as funicular pulsation then means some, although probably not great, loss of blood by the fœtus, as the inflow has naturally ceased. If in any case it be deemed advisable to leave the cord uncut for a time, while the hand of the accoucheur may gently feel the uterus through the abdominal wall, it will be well to avoid unnecessary compression, as this tends to separate the placenta if still attached, and thus to defeat the object for which the cord is left intact.

In many cases of asphyxia neonatorum, to do full justice to both mother and child, and especially when great value is attached to the survival of the latter, the presence of two physicians is desirable. The labours usually associated with asphyxia neonatorum are more or less difficult and involve some danger from post-partum hæmorrhage. In many such cases there is fortunately a colleague present to administer the anæsthetic. I make bold to say, after considerable experience, that when an anæsthetic is necessary, preliminary to instrumental or other artificial delivery, a skilled hand other than that of the operator should always, when possible, administer the anæsthetic. A nurse, however intelligent, is not a responsible person to manage the delivery of the placenta and secure contraction of the uterus; while she is still less able to assist scientifically in the resuscitation of the infant and should never be allowed to anæsthetise the patient or maintain an anæsthesia induced by the accoucheur. The double duties of the physician, in the absence of a trustworthy colleague, are likely to be imperfectly performed towards both patients if their condition is in any way serious. The first duty of the accoucheur is to the mother. His colleague should be responsible for the treatment of the child if born apparently dead.

Having considered the circumstances under which it is permissible to postpone division of the umbilical cord, and those in which its division should take place at once, I have next to consider the means at our disposal for maintaining the double function of that connexion between mother and child—namely, the oxygenation and circulation of the blood in the infant—when the cord has been cut and asphyxia exists. The asphyxiated infant has plenty of blood in its body, sometimes too much, rarely too little. Stillborn infants are said to be heavier by about one-third than children born alive.[12] If the possibility of resuscitating the infant remains, the heart still beats, however feebly; but the source of oxygenation of the blood is cut off completely, and unless oxygen be obtained from another quarter the lingering vitality evinced by cardiac pulsation will also cease.

Marshall Hall, to whom we are indebted for the first real advance in the treatment of these cases (although the elasticity of the chest-wall was utilised before his time), was of opinion that "without due artificial respiration every means of augmenting the circulation must be injurious."[13]

[10] Op. cit., p. 160.
[11] Gazette Médicale de Paris, 1850.
[12] Guy and Ferrier: Forensic Medicine, p. 95.
[13] Asphyxia, its Nature and Remedy, p. 25.

He assumed an increased production of carbonic acid under these circumstances. If, however, it be possible to stimulate the circulation while artificial respiration is fully carried out, we cannot suppose that an increased action of that organ which justifies our hope of recovery can render the case more critical. When, as may occur, and as I have myself witnessed in the adult, failure of respiration *follows* cardiac failure or syncope, artificial respiration may maintain some movement in the heart of a passive character until the accumulation of carbonic acid in the blood, not oxygen, provokes renewed so-called voluntary respiration. Whether the stillstand of the heart in these cases is absolute, or whether some cardiac action continues, cannot be positively stated, for the ventricular systole alone is audible on auscultation and perceptible at the wrist. That ventricular stillstand may be so prolonged as, in the absence of artificial respiration, to point with great probability to a fatal issue is certain. So, also, in the fœtus, artificial respiration, the ultimate object of which is oxygenation of the blood, may to a certain extent influence the cardiac capacity, as all the contents of the chest widen on the creation of a thoracic vacuum. In this case, however, from the persistence of the fœtal channels, the production of cardiac diastole on widening the chest, and its diminution on lessening it, act with less advantage as an aspirator on the pulmonary circulation towards the left ventricle than in the case of the adult and perfect heart. While we may, therefore, assume some change in the chambers of the heart under artificial respiration, we cannot thus quicken its action; such a quickening, however, were it possible, should act both as an aspirator and propeller of the pulmonary and systemic circulation. What thoracic manipulation is to the lungs—an artificial maintenance of the respiratory movements—the introduction of a cardiac accelerant into the blood by hypodermic injection is to the movements of the heart.

The cause of retarded heart's action in the newly born asphyxiated child is probably threefold—viz., lessened sensibility of the cardiac centre, inhibition by way of the pneumogastric nerve, and direct enfeeblement of the cardiac muscle from the circulation of deoxidised blood; the injection, therefore, of such a substance as ether hypodermically is calculated to aggravate rather than remove the central anæsthesia present. That this should be so is not surprising when one bears in mind the effect which an anæsthetic administered to the mother has upon the infant, and likewise the fact that in the analogous case of cyanosis from cardiac malformation alcohol has been found to be badly borne.[14] On the other hand, the employment of belladonna or atropine is calculated to accelerate the inhibited heart without increasing the insensibility of the patient. In a paper published in THE LANCET last autumn[15] "On the Heart as a Guide to Treatment in Infantile Convulsions" I related a remarkable instance of the accelerating influence of belladonna upon the circulation of an infant nineteen days old, in whom both respiration and circulation were all but extinguished; I am, therefore, inclined to believe that the use of belladonna as an adjunct to the employment of artificial respiration may prove of distinct benefit and to be an advance in the treatment of these cases. Lauder Brunton,[16] referring to the investigations of Kronecker and Schapiro, states that "when the temperature is low (7° to 8° C.) the ventricular contractions are enlarged by atropine, but diminished by it when the temperature rises over 15° C." The low temperature, therefore, which characterises any considerable degree of asphyxia neonatorum ought to be favourable to the beneficial action of atropine on the heart.

It has been contended by some, Marshall Hall among others,[17] that to quicken the circulation while pulmonary respiration is impaired is but to promote engorgement of the lungs. In the adult it is possible that this objection may have some force; but, fortunately, in the case of the newly born and apparently dead infant it is not valid, for the fœtal channels remain open, the pulmonary circulation is limited, and the heart is for a time capable of stimulation by the circulation through it of venous blood. Nor is this merely a theoretical vindication of the procedure I have suggested, for in the interesting and memorable researches of Mr. Erichsen on Asphyxia[18] he repeatedly demonstrated beyond cavil, in the case of young puppies (four days old) in which he found both the ductus arteriosus and the foramen ovale still pervious, that "the quantity of blood that passes through the lungs, and consequently becomes arterial, is (while these channels remain open) but very small." That this should be so is not surprising when one considers that even in the mature embryo the pulmonic circulation must be almost *nil*. William Harvey[19] went so far as to believe that the condition of embryos possessing lungs unused was much the same as that of animals without these organs; but even when the heart is perfect such an acceleration of its action is not likely to congest the lungs seriously, provided artificial respiration be at the same time skilfully employed.

*Artificial respiration.*—It has been seen in the earlier portion of this article that premature efforts of the fœtus to breathe result in the aspiration into the respiratory passages of fluids and foreign substances from the maternal passages. The removal of these as far as possible is a necessary preliminary to ventilation of the lungs. With this object various indiarubber and tubular instruments have been suggested, but they are of questionable utility, and the object they have in view may be better, more expeditiously, and more safely accomplished otherwise—namely, by Schultze's method of artificial respiration, to be described presently. Since the days of Marshall Hall various other methods of artificial respiration have been described and, following the patronymic nomenclature adopted in his case (and first conferred, there is reason to believe, by THE LANCET), have been called by the names of their proposers. Although one cannot altogether admit the "facts insisted upon by Waters in his thoughtful book on "Diseases of the Chest," nor, in consequence, admit the correctness of the argument based upon these when he treats of apnœa in stillborn children, those who have had any practical experience of the treatment of asphyxia neonatorum must occasionally have observed that the ultimate respiratory efforts of the child, when these occur, do not always seem to bear a direct relation to the respiratory movements artificially induced. This does not, of course, prove that such efforts have been without influence in establishing respiration and restoring circulation, but give some countenance to the belief expressed by Waters that the respiratory act is in these cases the result of the action of reflex stimuli. It may be that in cases of perfect apnœa, which it has been seen are very rare, his facts and reasoning alike may have some force, but since fluids may be driven out of the lungs there is no *a priori* impossibility of air being driven into them. Expansion of the chest wall by "muscular effort," by which Waters means voluntary muscular effort, is, he believes, the only way to get air into the infant's lungs. It will be seen presently, however, when I refer to Champneys' able paper on the subject in the Transactions of the Royal Medical and Chirurgical Society, that air can under appropriate manipulation be introduced in considerable quantity into such lungs by simulated muscular effort. When Waters wrote, Marshall Hall's method was that chiefly practised, and it is true that in the asphyxiated infant, and by that method, very little air can be introduced into the chest. Champneys[20] classifies the various methods of artificial respiration and gives the *rationale* of their action. By a series of experiments on the dead fœtus he also determined approximately the comparative inspiratory and respiratory power of each. As a general result he found the "Silvester group of manipulations" to produce most pulmonary ventilation—that is, the highest degree of inspiration—while that of Schultze, in its second, or expiratory movement, appeared to be more powerful than any of the others. I may add here, however, that Schultze states[21] that during the position of inspiration in his method air may be heard to rush through the glottis with a sound indicating a considerable force of air current. Schultze's method has an appearance of violence which does not recommend it to those accustomed to gentler methods, but I think its violence is apparent rather than real, and depends, as do all other methods, very much upon the tact and dexterity of the operator. As to empty the lungs of fluids is our first duty, I shall describe this method now.

Seizing the shoulders of the child as it lies upon its back, so that the thumb of each hand rests upon the anterior aspect of the thorax, while the index finger is hooked into the armpit from behind, and the other fingers are upon the dorsal aspect of the infant's chest, the operator allows the child to

[14] Walshe, op. cit., p. 435.
[15] THE LANCET, Nov. 4th, 1893.
[16] Pharmacology, Therapeutics, and Materia Medica, p. 905.
[17] Op. cit.
[18] Edinburgh Medical and Surgical Journal, vol. lxiii.
[19] Op. cit., p. 41.
[20] Transactions of the Royal Medical and Chirurgical Society, vol. lxiv., p. 42.
[21] Loc. cit.

hang for a few moments. Then, standing with his legs slightly apart, by an even swinging movement he raises the child with as little compression of the chest as is compatible with a safe grasp of its body, until it reaches a certain point above the horizontal plane. At this point the body gently curls over, bending at the loins, so that the weight of the lower part of the body and the contents of the abdomen press upon the diaphragmatic floor of the thorax and produce the effects of a forcible expiration. It is at this point that aspirated fluids flow freely from the respiratory openings.[22] This manœuvre may be repeated "after a pause of a few seconds" with gentleness and grace, until as much fluid as possible is expelled. According to Schultze, it is usually during the production of artificial expiration that the first attempt at spontaneous respiration is made. When this is observed, the child should be lowered at once in order to utilise, as far as possible, this artificial inspiratory movement—that during which air may sometimes be heard to whistle through the glottis. Contrary to the advice of the Marshall Hall period, the child may now be placed in a warm bath, in order that the spontaneous respiratory movements may not be interfered with by artificial manipulations. Here, as in many other circumstances, Talleyrand's advice finds application: "Surtout point trop de zèle." There are many who use Schultze's method throughout. Inasmuch, however, as greater inspiratory power is resident in Silvester's method and its modifications, the child may, after being freed from aspirated fluids, be laid on its back, so that there is as little stretching of the anterior surface of the body as possible—a tension which, as Champneys points out, prevents the full development of the thoracic vacuum—and that group of manipulations carried out. An assistant may now fix the legs, while the arms are seized at any convenient point in order to exert efficient upward traction on the shoulder girdle and ribs. I prefer seizing the arms a little above the elbows. Traction may then be steadily made upwards and slightly forwards, as if withdrawing the piston of a syringe, until the utmost stretching of the thorax compatible with gentleness has been reached. The arms may then be brought to the sides again, and the manœuvre repeated. Before such repetition the hands of the operator may make gentle pressure on the lower part of the thorax in order to simulate expiration. Inasmuch, however, as the diaphragm is already in the position of expiration, or nearly so, this is not so important as a repetition of the movement inducing inspiration. In the absence of spontaneous attempts at respiration these acts should not follow one another too hurriedly, but must be sufficiently slowly and deliberately performed to produce the greatest vacuum possible; but, as the normal rate of infantile respiration is greater than in larger subjects, they must be repeated more frequently than in the suspended animation of the latter.

When resuscitation is possible the methods I have described, capable as they are respectively of producing the highest degree of inspiration and expiration, will suffice. Attempts to inflate the lungs directly by blowing into the mouth of the child, or by other direct means of inflation, are inferior to the methods mentioned, not devoid of danger to the parts insufflated, and totally erroneous in theory. Methods of direct inflation, in short, imply the ignoring or ignorance of the cardiac factor in suspended animation. This our second object, of favouring the development and action of the chambers of the heart and the current of blood through the intra-thoracic vessels, far from being attained by direct insufflation of the lungs, is more likely to be thwarted. The inflated lungs, in order to expand and raise the walls of the chest, even if they be not injured by the degree of insufflation calculated to produce this effect, must use as a fulcrum the heart, great vessels, and contents of the mediastina generally. In other words, they must exert a pressure upon those parts calculated to arrest the circulation before they could be expected to expand the thorax, as in the act of voluntary or simulated inspiration by muscular effort. More progress will therefore be made by perseverance with the method of artificial muscular respiration selected, and of the *rationale* of which the operator has an intelligent conception, than by irresolute and hurried endeavours of various kinds, some of which are based upon erroneous ideas of the work to be done.

For what length of time should we persevere in our efforts to restore the child? As Marshall Hall[23] remarks—and in doing so he quotes so ancient an authority in support of his observation as William Harvey—the newly born and apparently dead fœtus can survive much longer without respiration than can a child or other subject which has breathed fully. It has also been observed that a child "from his mother's womb untimely ripped" by Cæsarean section can be resuscitated after a longer interval than the child extruded in natural labour.[24] In view, therefore, of these facts, attempts to restore the child by artificial respiration must be continued for a considerable length of time—Marshall Hall says for hours. Speaking from my own experience, however, there is little utility in prolonging our efforts much beyond the time when the heart has definitely ceased to beat, as determined by auscultation. But there is this fallacy in auscultation, that it is only the ventricular pulsation which can be detected by the stethoscope, and, in view of a possible persistence of auricular action, it may be well to persevere for a time—how long one cannot say in any particular case—even after the heart has ceased to be heard beating. The motto adopted by the Humane Society, and with which Marshall Hall concludes the essay to which I have referred, "Lateat scintillula forsan," is an encouragement to persevere until there is every probability of the spark of life having been finally extinguished. As regards the influence of other stimuli than that of the external temperature on the body of the infant, a variety of opinion is permissible and exists. Champneys[25] says such are of no use in the pale stage of asphyxia neonatorum. That they are not of great use may be admitted; that they need never be of a violent description is certain; but that they are of no use at all in such cases is more doubtful. While the operator is concerned with the measure-in-chief there is no objection to an assistant using gentle friction with some mild stimulant, such as brandy or a weak solution of ammonia, and the application of external warmth alternating in some instances with cold by means of a sponge. The limbs may, as Marshall Hall suggests, be gently rubbed in an upward direction to promote the return of venous blood. If such measures do not directly provoke spontaneous respiration they cannot prevent it, and may therefore be employed. The less profound the asphyxia the more likely are such measures to succeed; nay, in milder cases they may be even more potent than artificial respiration. It is a common occurrence to observe a direct provocation of the respiratory reflex in such cases. In this connexion it is necessary to mention the method of resuscitation by rhythmical tractions of the tongue, an account of which has recently been published by Laborde.[26] The writer regards it as operating upon the respiratory reflex by way of the superior laryngeal, glossopharyngeal, and lingual nerves—the nerves stimulated by the process of traction. Any effect of the process upon the circulatory system he regards as secondary to its influence upon the mechanism of respiration. Following the line of thought and observation, however, which has been pursued in this article, a possibly direct influence of this process upon the heart by way of the pharyngeal plexus cannot be excluded. "Kronecker,"[27] says Lauder Brunton, "has discovered that the act of swallowing seems to remove entirely the inhibitory action of the vagus upon the heart for the time being, so that the pulse becomes exceedingly rapid. The extent to which this occurs will hardly be credited by anyone who has not tried the experiment." As Laborde[28] shows, the heart of asphyxia is an inhibited heart—it dies in diastole. A proceeding, therefore, which is calculated to modify vagus action may also be operative in the process of resuscitation. The sighing respiration accompanying a heart depressed from disease or emotion is due to a pneumogastric reflex having its maximum stimulation in the vascular system or brain, as the case may be. The lungs are thus summoned to aid the heart by the heart. In these cases, as I have shown, the injection of belladonna may render signal service. It has, moreover, this advantage, that an agent in the blood is allowed to deal, as it very effectually can, with the cardiac inhibition; while the physician is left with two hands to employ that form of artificial respiration or other manipulation which the case indicates. It is a great recommendation of Laborde's process that it is very simple and always capable of application. Remembering that children, cast aside as dead, have frequently recovered, it is our duty systematically and

[22] Schultze, loc. cit., p. 40. [23] Op. cit.

[24] Barnes, op. cit.
[25] Loc. cit.
[26] Les Tractions Rythmées de la Langue, Paris, 1894.
[27] Disorders of Digestion, 1886, p. 11.
[28] Op. cit., p. 159-161.

methodically to persevere in the conjoint use of all means likely to promote recovery until we are convinced that further effort is futile.

Upper Berkeley-street, W.

## ENDOCARDITIS OF TRICUSPID AND MITRAL VALVES OCCURRING IN A COLLIE BITCH THE SUBJECT OF CHOREA.

BY R. D. MOTHERSOLE, M.S., M.D. LOND.,
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WHILE visiting a patient last May my attention was called to a collie bitch fourteen months old, said to be suffering from St. Vitus's dance. The bitch had enjoyed good health up till the age of seven months, when she had an attack of distemper, with the following symptoms. It was said to have begun "like a cold; eyes first red and then covered with a film, running from the nose, heaving and bilious vomiting, and feverishness." From this attack she gradually recovered after one or two relapses. About this time the animal received a severe blow on the head from a heavy stone. The spasmodic movements began in November, and had since got worse, while she also lost flesh and became weaker. I was likewise informed that a sister bitch had an attack of distemper at about the same time, which was likewise followed by convulsive movements. These partly took the form of constant hiccough, and on this account she was destroyed. When I first saw this case the bitch was suffering from clonic spasms, principally affecting the right limbs, but also the muscles of the trunk and abdomen, and, to a less extent, the left side. The movements were at the rate of sixty to sixty-five per minute, and when she was lying down the whole body moved. The muscular spasm frequently made the inspirations of a convulsive or "catchy" nature. The movements appeared to cease for a few seconds when she made a determined effort, or under the influence of excitement, but soon returned. The owner stated that the movements did not cease during sleep; probably they prevented sleep, as the poor animal was heard "bumping against her kennel" in the night time. The body was somewhat emaciated, and the skin of her nose was hot and dry. The hot weather appeared to have an unfavourable influence on her health, and she became weaker and more irritable. The bitch was, therefore, destroyed with prussic acid eight days after I first saw her. Thirteen hours later I made a partial post-mortem examination. The body was not very well nourished, there being only a small amount of subcutaneous fat. There were some small ecchymoses on the surface of the thymus and beneath the pleura and pericardium, probably attributable to the mode of death. The heart was rather larger than might have been expected. The pulmonary valves were normal. The septal segment of the tricuspid valve presented a very unusual appearance; it was of a cherry-red colour and much thickened, being made up of what appeared to be granulation tissue one-sixteenth of an inch thick; it was also much narrowed, so that the distance from the origin to the free edge was only about half of that in the other segments. The chordæ tendineæ were much shorter than usual, and were inserted behind the thickened free edge of the valve. The endocardium at the origin of this part of the valve was mottled, and showed one or more small vessels running in the direction of the inflamed segment. The other segments of the tricuspid valve were almost normal, but showed a few small granulations near the insertion of the chordæ. The aortic valves appeared normal with the exception of a small, hard, calcareous nodule projecting from the upper border of one sinus of Valsalva. Both segments of the mitral valve showed numerous small, bright-red, semi-translucent granulations, springing from the auricular aspect of the valve near the origin of the chordæ tendineæ. They varied in size from a mustard- to a millet-seed, could not be rubbed off, and evidently formed part of the substance of the valve.

This case is of considerable interest as indicating a relationship between chorea and endocarditis in the lower animals as well as in the human subject. I have since been informed that chorea is not infrequently met with in the dog, and have also heard of another case in which it followed an attack of distemper. Such an association, if common, is worthy of attention in regard to the connexion of chorea with acute rheumatism and other febrile diseases in children. Unfortunately, this case does not throw any direct light on the vexed question of the pathology of chorea. It appears to best coincide with the view that chorea is the result of impairment of inhibitory power in an unstable nervous organisation, either by a toxic agent in the blood or some other disturbing cause. In this case the spasmodic movements were antecedent to the endocarditis, and the idea suggests itself whether they may not have caused the latter by throwing increased strain on the cardiac valves, whose nutrition had been already impaired by the condition of the blood. The fact that one segment of the tricuspid was more diseased than any part of the mitral valve may possibly be explained on the supposition that this segment had been already the seat of congenital disease. This hypothesis would be supported by the condition of the chordæ tendineæ.

Bolton.

# Clinical Notes:

## MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

### CASE OF DISLOCATION OF BOTH BONES OF THE ELBOW-JOINT OUTWARDS.

BY C. FRANK WIGHTMAN, M.R.C.S. ENG., L.R.C.P. LOND.,
SENIOR HOUSE SURGEON TO THE SCARBOROUGH HOSPITAL AND DISPENSARY.

THE following case of dislocation of the elbow-joint outwards seems to me to be worthy of record on account of its rareness. The patient, a boy nine years old, who was brought to the hospital on Aug. 22nd, had, while playing on the sands, been knocked over. The patient could not tell me exactly how he fell, only that he fell on to his right elbow. On examination the forearm was found to be very slightly flexed and only very slightly pronated. The relative positions of the different bones of the elbow-joint were easily made out, as at the time of examination little or no swelling had occurred, the ulna being situated immediately below the external condyle of the humerus and the radius being external to this, in its normal relation to the ulna, there being no radio-ulnar dislocation. The internal condyle was very prominent, the smooth, trochlear surface of the humerus being easily felt. There was no fracture of the coronoid process of the ulna. The dislocation was easily reduced, the ulna being freed from the external condyle by pressure with the knee while extension was made on the forearm. No anæsthetic was used. Dislocations of both bones of the elbow-joint outwards are certainly rare, and when met with, unlike this case, are nearly always accompanied by extreme pronation of the forearm.

Scarborough.

### UNUSUAL CASE OF SCARLET FEVER.

BY PHILIP J. KAVANAGH, L.R.C.P., L.R.C.S. EDIN., L.F.P. & S. GLASG.

A FEW weeks ago I was called to visit a female child aged seven years and nine months, who was supposed to be suffering from measles. The mother informed me that on the previous day the child had complained of feeling unwell and had vomited twice, and that, whilst putting her to bed, she had observed the rash, which she thought was measles. On examination I was at once able to exclude measles. The body was covered with innumerable minute pink spots, which disappeared on pressure and did not feel elevated to the touch. The spots on the chest, abdomen, and back were closely set, but did not unite with one another. The upper and lower extremities presented the rash in a

more discrete form and in patches; the skin was hot and moist. Inspection of the throat revealed the palate, uvula, pharynx, and tonsils to be red and swollen, the latter having a slight deposit of yellowish mucus upon them; the tongue was furred, but no prominent papillæ were visible. The submaxillary glands and those at the angle of the jaw and in the cervical region were enlarged and tender on handling. The temperature was 102·2°F., and the pulse 115. Swallowing was rendered painful on account of the condition of the throat, but the patient complained of no other pain save some slight frontal headache. A few moist sounds were detected over the chest on auscultation, being due to a trifling bronchial catarrh. My diagnosis was that of scarlet fever, and due precautions were taken to prevent it spreading. Contrary to my expectations, I found on visiting the patient the next day that the rash had gone, with the exception of a few spots on the right forearm; the tongue had cleaned, but did not exhibit the characteristic strawberry appearance. The condition of the throat had decidedly improved, the tonsils had decreased in size, and the temperature had fallen to 99°. The little patient told me that she could swallow now without trouble, and asked to be allowed to have her usual diet. So suddenly had the eruption disappeared and the temperature fallen that I was doubtful as to the veracity of my diagnosis. However, I resolved to keep the patient isolated and watched for desquamation or the occurrence of albumen in the urine. On the following day the patient was apparently in her usual health; the temperature was 98·6°, and the throat only showed some very slight signs of inflammation. No vestige of the rash was now perceivable. She remained well with the exception of the bronchial catarrh for the following ten days. On the eleventh day her hands and feet were observed to be desquamating freely, and a week later albumen was detected in the urine, but only in minute quantities. Although my diagnosis proved to be correct it seemed on my second visit to be questionable. The initial symptoms were in favour of scarlet fever; nevertheless, moderate pyrexia and slight patches on the throat have been observed in cases of rötheln. The rash did not present the scarlet efflorescence usually seen in cases of scarlet fever, but was of a light pink colour, and not coalescing was not dissimilar to rötheln; the spots were certainly smaller than those which it is customary to see in rötheln. Again, the celerity with which the rash vanished, the improvement in the throat, and the decrease in the temperature seemed to suggest rötheln. Moreover, scarlet fever was not prevalent at the time, which increased my scepticism. Premonitory symptoms in rötheln are absent as a rule, or slight. In this case they may be said to have been slight. The tongue was unsatisfactory throughout, and although it remained red for some few days after its coating had disappeared the papillæ were not distinct. This naturally enhanced the difficulty in the diagnosis.

Queen's-gardens, Lancaster-gate, W.

## A CASE OF CONGENITAL TORSION OF THE PENIS.

BY ARNOLD CADDY, F.R.C.S. ENG., L.R.C.P. LOND.

THIS condition was present in the case of a youth aged eighteen, a native of Orissa, for whom I incised a large glandular abscess in Scarpa's triangle in July last. From where the penis joined the scrotum in front the organ took forwards very nearly a complete half turn to the left, so that the position of the slit-like meatus urinarius, which occupied the apex of the glans penis, was reversed, and the frænum preputii lay uppermost. The pigmented raphé under the penis, continuous with the median raphé of the scrotum, was very well marked, and was to be seen coursing along the left side of the penis, over the dorsum and slightly on to the right side; then, turning on itself, it joined the frænum preputii above. There was no sign of epispadias or hypospadias present, and the patient said that the stream of urine flowed straight downwards and was not deflected to the right or left. The case is interesting owing to its extreme rarity, for Jacobson, in his work on the Diseases of the Male Organs of Generation (p. 612), states that torsion of the penis uncomplicated by epispadias or hypospadias is almost unknown.

Calcutta.

# A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

## MIDDLESEX HOSPITAL.

### FIVE CASES OF CANCER TREATED WITH CINNAMON; REMARKS.

(Under the care of Mr. J. W. HULKE.)

A REGULATION of the Middlesex Hospital respecting its in-patient cancer wards requires the surgeons in charge of these to try every alleged remedy the composition of which is not "secret" and for which obviously there are not sufficient grounds for judging that its effect, if any, will be injurious. A letter from Dr. J. Carne Ross having been published in THE LANCET[1] on the great value of cinnamon in cancer, it was agreed to try the drug in the way recommended. Our readers will recollect that he spoke highly of its usefulness and will share our regret that the results obtained by Mr. Hulke do not bear out the anticipations of its value as expressed by Dr. Ross in his communication. Five cases were chosen as best fulfilling the conditions under which Dr. Ross had obtained the best results. Three were uterine cases, one was rectal, and one was a case of recurrent masses in the neck everywhere covered with sound skin. The preparation used was that described in THE LANCET, made by slowly boiling one pound of Ceylon sticks with three pints of water till the bulk was reduced to one pint. Half a pint was drunk daily. Four of the patients were under observation in the hospital the whole time; the fifth patient was treated for part of the time as an out-patient. In four of the cases administration was continued for between two and three weeks, after which the drug became intolerable to the patient and was vomited. The patient in the fifth case continued to take it for a month before he begged to have it changed. In three of the cases there was definite evidence of increase of the growth during the administration. In none was there any evidence of relief of the pain, and in no case was it possible to diminish the dose of morphia or opium, but rather this had to be increased with the increase of the growth or as the drug lost its power from custom. For the notes of these cases we are indebted to Mr. G. Stanley Dodgson, house surgeon.

CASE 1.—A woman twenty-six years of age, the mother of one child two years old, was admitted to the Middlesex Hospital suffering from cancer of the rectum. There was a large smooth mass in the anterior rectal wall, ulcerated and occasionally bleeding at its upper border. The patient had a great deal of aching and straining pain, especially at night. There was also some dysuria. The growth was of about two years' standing. Inguinal colotomy had been performed twelve months previously. She had been using morphia suppositories to relieve the pain. On July 22nd the use of cinnamon was commenced and no morphia was given. On the 24th she complained that she had had two sleepless nights and that the pain was worse. A quarter of a grain suppository of morphia, to be repeated four times a day, was ordered. On the 27th the patient was no better and was still having bad nights. She vomited the cinnamon on that day. On Aug. 2nd, as the patient was evidently in a very distressed condition, morphia injections (quarter of a grain each) were ordered four times daily. On the 4th she was sleeping better after the morphia, but she still had bad nights. On the 13th the quantity of morphia was increased. The cinnamon, which now frequently made her sick, was omitted, as it appeared to do no good. The dysuria had increased lately and an area of dulness from extension of the growth was developing above the pubes.

CASE 2.—A woman thirty-nine years of age was admitted to the Middlesex Hospital suffering from carcinoma cervicis uteri of about two years' standing. Both lateral fornices were filled with new growth. The lips of the os were ulcerated and bled. At intervals of a few days the patient

[1] THE LANCET, July 21st, 1894.

suffered from attacks of acute pain, principally in the left side of the pelvis. She complained of pain also in the left loin; no swelling could be detected in the loin. The urine contained blood and albumen. Opium had been administered by the mouth during the paroxysms, with but little effect. On July 22nd she was ordered cinnamon, and the opium was omitted. On the 24th she had another attack of acute pain during the night. On the 27th she stated that she had been more comfortable and freer from pain during the last two days. She left the hospital at this date. On Aug. 4th the patient stated that there had been a good deal of pain and sickness during the previous week. She was directed to take twenty minims of solution of hydrochlorate of morphia when the pain returned. On the 11th the patient returned to hospital. She had had a week of great suffering, and had been constantly sick after taking the cinnamon, which she was anxious to leave off. As it seemed to be doing no good it was omitted.

CASE 3.—A woman fifty-three years of age was admitted to the Middlesex Hospital suffering from carcinoma cervicis uteri. The os and the anterior and posterior vaginal walls in their upper two inches were the seat of a hard, knobby, irregular growth. There was no bleeding. She had had morphia injections since her admission in January last. On July 22nd she was ordered cinnamon; she was having a morphia injection four times daily. This dulled but never completely abolished the pain, and when the next injection was due the patient usually appeared to be suffering acutely. On the 24th the patient said she liked the cinnamon, but did not think that it had influenced her pain. On the 28th, as the patient had appeared easier for the last day or two, an attempt was made to reduce the morphia, but had to be abandoned, as the pain again became severe. On the 30th the glands in the groin were increasing in size, and there was marked œdema of the left leg. On Aug. 7th she had been easier for the previous few days, but the œdema of the leg was increasing. On the 11th the cinnamon was making the patient very sick. The pain appeared to be worse. The glands in the left groin had ulcerated. The cinnamon was omitted and the quantity of morphia increased.

CASE 4.—A patient aged fifty-three. The anterior vaginal wall was elevated into a number of large hard bosses, covered for the most part with unulcerated mucous membrane. In a recess between these bosses there was a small perforation into the bladder. The os was hard but smooth, and not ulcerated. The labia were œdematous. There were a number of large œdematous tags round the anus. The rectum appeared normal. She suffered a great deal of pain in the loins and in the lower abdomen, but slept fairly well at night after a grain pill of the extract of opium. On July 26th she commenced to take the cinnamon. On the 27th she was freer from pain, but had had no sleep during the night till the opium pill was given. On the 30th she complained of having suffered great pain in the lower abdomen for the last two nights, which she said was getting worse. A morphia suppository (one-third of a grain) was ordered to be given occasionally. On the 31st she vomited after taking the cinnamon, and was in great pain. On Aug. 3rd, as the pain was increasing and the patient was in great discomfort, injections of morphia (one-third of a grain) were ordered. On the 11th, and for a day or two before, the patient had been very sick after the cinnamon. The œdema about the vulva and the rectum had increased, and the pain was only controlled by morphia. The cinnamon was therefore omitted.

CASE 5.—A man aged forty-nine. This man had a part of the tongue removed in September, 1893. There were now large glandular masses extending collar-like almost completely round the neck, but they were more developed on the right side than on the left. There was no local recurrence. The skin over the recurrent growth in the neck was everywhere sound. The patient did not suffer much acute pain, but the masses were inconvenient and distressing. He took a pill of the extract of opium at night as he was restless and slept badly otherwise. On July 22nd treatment with cinnamon was commenced. On Aug. 1st the patient said that he had been fairly comfortable, sleeping well after the pill. The growth on the right side of the neck was obviously increasing. He complained of pain along the course of the left ulnar nerve, with numbness of the little and ring fingers. He took the cinnamon well. On the 7th the pains in the arm and the shoulder were increasing. On the 16th it was observed that the swelling on both sides of the neck had increased considerably. The skin over one portion had become red, and fluctuation was apparent over it. He was suffering from more pain in the neck. On the 23rd the skin broke over the right side of the neck, and a free discharge took place, which made him easier. He was anxious to omit the cinnamon, as it had become very nauseous, and he complained that everything tasted of it.

*Remarks by* Mr. J. W. HULKE.—It has fallen to me to make trial of various remedial measures suggested here and abroad for the relief and cure of sufferers from cancer in the course of some twenty-five years or thereabouts. Of such "pharmaka" I may mention "Fells' paste" (the active ingredient in which is zinc chloride coloured with red snake-root), slow injection of acetic acid through a capillary tube, sundry escharotic pastes and powders having arsenic as their essential component, condurango, and more recently Chian turpentine; also besides these the dietetic treatment laid down by Beneke, without and with the association of arsenic administered internally recommended by Esmarch. Several years ago the conjecture that cancer might have a parasitic origin induced me to try cinnamon, being influenced in the selection of this by the common ascription of germicidal properties to aromatic oils, and by my recollection that my old teacher, Dr. A. Farre, held strongly that cinnamon had something like a specific or particular influence over some uterine functions, a belief which led him to prescribe large doses of the tincture in certain cases of dysmenorrhœa. I gave cinnamon a long trial, chiefly in cases of cancer of the uterus, but also in that of other organs. The result was wholly negative. Dr. Ross's letter in a recent number of THE LANCET imposed on me the obligation to try this drug again. The result is again negative, particularly with regard to relief of pain, for which Dr. Ross recommends it, in evidence of which my excellent house surgeon, Mr. G. Stanley Dodgson, has drawn up this short report.

# Medical Societies.

## BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.

*Aspects of Modern Surgery.—Two Unusual Cases of Erythema.—Talipes Equino-varus of both Feet.—Cancer of the Œsophagus.*

A MEETING of this society was held on Sept. 6th, Mr. T. JENNER VERRALL, President, in the chair.

Mr. VERRALL, upon taking the chair, made some remarks upon the Aspects of Modern Surgery. When his uncle, Mr. W. Verrall, took the chair thirty years ago anæsthetics might, he said, have been looked upon as the most notable advance in surgery; now, a generation later, we cannot but think of antiseptics. Without hesitation we now make exploratory abdominal incisions and interfere with joints in a way totally impossible formerly. Thirty years ago such an operation as wiring the patella would have been unjustifiable, now it is doubtful if it is justifiable not to do so. The larger operations which have become possible and even advisable are well illustrated by Phelps's operation for club-foot. As we progress division of labour becomes more necessary; we must have workers in (1) bacteriology, (2) experimental physiology, and (3) practical surgery. By such combined specialism the wonderful results of modern brain surgery have been perfected. Step by step the sphere of operations has been extended, till every part of the body is more or less under the surgeon's control. No longer content with merely draining cavities in the lung, the gangrenous portions have been excised with success. Diagnosis and manual dexterity have not improved so vastly. Probably no surgeon has yet arisen with a swifter and more certain touch than was Liston's. Perhaps sufficient attention is not now given to speed, although in abdominal operations every minute the peritoneum is exposed adds to the gravity of the case. If the key-note of Mr. Verrall's student days was conservative surgery, that of to-day is preventive surgery. Thus we have the radical cure for hernia, the removal of the appendix vermiformis and of tuberculous glands, and of growths in a pre-cancerous stage, and it has even been suggested to excise a gastric ulcer before perforation. The greater the field of surgery the fiercer is the war of methods and the competition of statistics. It is difficult to decide

between the exponents of tracheotomy and tubage, of perchloride of mercury and antitoxin, or between the treatment of fibroids by electricity and by oöphorectomy. The society must hammer out facts, believing that at last steel will meet flint and light flash forth.

Dr. MACKEY read notes of Two Unusual Cases of Erythema. 1. Erythema with vesicles, or herpes iris. A girl aged sixteen stated that fourteen days before her visit two small pimples appeared on the left cheek; these extended quickly in circles, and a bleb with clear fluid developed in the centre. Many others developed subsequently, mostly on the right cheek—twenty-seven in all. Those a few days old showed a central moist surface where a bleb had broken, surrounded by a reddish ring, and this by one of a darker colour; in some the middle was healed, but round it was a circle of raw skin with sero-purulent secretion, then a red raised edge, and in some the centre was markedly depressed. Itching was moderate, but the patient felt quite well. Eventually a spot developed on the back of the right hand. 2. Erythema scarlatiniforme. A man aged twenty-six had nothing wrong with the uncovered parts, but the trunk and arms down to the wrists were covered with red, slightly raised, irregular small patches fading on pressure and extremely difficult to distinguish in appearance from scarlet fever. There was no irritation.

Mr. MORGAN showed a child with extreme Talipes Equinovarus of Both Feet. The mother's feet were in exactly the same condition, so that the case might be said to be not only congenital but also hereditary.

Mr. VERRALL showed a specimen of Cancer of the Œsophagus, which had ulcerated into the trachea and caused gangrene of a portion of the lung. There was extensive atheroma of the first part of the aorta, but the heart and kidneys appeared to be normal. Gastrostomy had been successfully performed one month previously.

# Reviews and Notices of Books.

*A Treatise on Gynæcology, Clinical and Operative.* By S. POZZI, M.D., Professor in the Faculty of Medicine (Paris), Surgeon to the Lourcine-Pascal Hospital. Vol. III. London: The New Sydenham Society. 1893.

THE third volume of the translation of Dr. Pozzi's valuable work issued by the New Sydenham Society consists of seven books. Book X. deals with New Growths on the Uterine Appendages and Ligaments (ovaries, tubes, broad ligaments, round ligaments); Book XI. with Tuberculosis of the Generative Organs; Book XII. with Pelvic Hæmatocele, Intra- and Extra-peritoneal; Book XIII. with Extra-Uterine Fœtation; Book XIV. with Diseases of the Vagina; Book XV. with Diseases of the Vulva; and Book XVI. with Malformations of the Genital Organs. The account given of ovarian tumours is extremely full; we may call attention to a few points in it of special interest, particularly to certain maxims the truth of which is now very generally recognised. Thus, in discussing the proper treatment, the author says: "I shall not stop to consider medical treatment at all; it has been responsible for the deaths of many women whom it has prevented from undergoing operation at the proper time. Diuretics and diaphoretics, mercurial and iodine preparations, ergot of rye, &c., all owe their so-called success to a failure to recognise that the disease may undergo periods of arrest." In a similar category may be placed the success of methods of treatment employed for the "dispersing" of ovarian tumours that never really existed at all. As Dr. Pozzi says: "Every recognised ovarian cyst ought to be removed, if removal is practicable"; and, again, "Puncture of a cyst when it is possible to remove it entirely is always bad practice; the patient is thereby exposed to the risks of serious peritoneal accidents, and at the lowest estimate one always runs the risk of leading to the formation of adhesions." An interesting sketch of the history of ovariotomy is given. As regards France, the first ovariotomy was performed in 1844; but even so recently as 1856 the operation was there condemned by the Academy of Medicine, with the exception of Cazeaux. Apparently ovariotomy had no position in France till 1864, when Kœberlé published twelve cases with a mortality of 25 per cent., and Péan showed that it could be successfully performed in Paris. Dr. Pozzi considers the establishment of ovariotomy in France to be due to Kœberlé and Péan. He somewhat happily, we think, describes the operation as having passed through three phases: (1) a groping phase; (2) a short phase of extreme specialisation; and (3) a phase of generalisation owing to the powerful influence of antiseptics.

Among the other sections of the volume we may especially mention those on Malformations of the Genital Organs and on Tuberculosis of the Generative Organs, as containing in a convenient form a mass of information not very easily accessible otherwise. The present volume maintains the same high standard of excellence as its predecessors.

*The Jewish Method of Slaughtering Animals compared with other Methods.* By J. A. DEMBO, M.D. St. Petersburg. London: Kegan Paul, Trübner and Co. 1894.

As is generally pretty well known, the method of slaughtering animals practised among the Jews has always been that of severing the large bloodvessels of the neck so as to let the animal bleed to death and to ensure the meat being free from blood. The humanity of this process has long been a subject of controversy, and the societies for the prevention of cruelty to animals in England, Germany, Switzerland, &c., have raised an agitation actually demanding the total suppression by law of the Jewish mode of slaughter. This demand Dr. Dembo, in the work before us, does not hesitate to describe as "preposterous," and as he has witnessed the slaughtering of cattle during four years in all the chief slaughterhouses of Europe it must be admitted that he writes from practical observations of a wide and varied character. He witnessed the killing of nearly four thousand animals and gives the results of his investigations under the three heads: Humanity, Hygiene, and Economy. Under the first he discusses the Jewish method of killing by severing the bloodvessels of the neck with a sharp knife, and the preliminary stunning of the animal required by the societies for the prevention of cruelty to animals, this stunning being effected by the hammer or poleaxe, the mask with an iron bolt driven into the brain, or the shooting mask of Sigmund. All these various modes are dealt with exhaustively. In his opinion, formed from what he observed, the stunning process is by no means a humane one, the animal receiving very frequently several blows before the stunning is effectually accomplished. He recapitulates his experiences in the following sentences, and, though his tone may appear somewhat dogmatic, it is at least founded upon experience, and well-reasoned. It will also commend itself to many who have witnessed both the Jewish mode and the stunning as more generally adopted in England. There must always be a difference of opinion, and to most persons gifted with humane feelings each and every mode of slaughter must be extremely repulsive. "All I have said hitherto can be summed up in the following statements:—1. From the point of view of the protection of animals there is no more humane method of slaughter than the 'schechita,' for (*a*) this method causes in the quickest and safest way loss of consciousness and insensibility; (*b*) the cut with the extremely sharp and smooth-edged knife is entirely painless and encounters very few sensitive nerves in the neck. The tying and casting of the cattle previous to the act of slaughter can, on the one hand, be easily performed with the aid of the numerous existing apparatus without causing the slightest pain and, on the other hand, has the great advantage of guaranteeing

the safety of the people employed in the slaughterhouse. 2. From the point of view of hygiene there is no more rational method than the Jewish one, for (*a*) the copious and much more rapid escape of blood and the epileptiform convulsions appearing towards the end of the bleeding cause in the body of the slaughtered animal the development of lactic acid, which, combining with potassium phosphate, transforms the latter into potassium tartrate and dihydrogen potassium phosphate—this latter impedes the development of micro-organisms and the formation of the products of putrefaction (ptomaines and other poisonous substances), and considerably improves the taste of the meat; (*b*) the epileptiform convulsions render the blood that is still left in the meat less alkaline, and diminish, therefore, its properties as a nutrient medium for bacteria; (*c*) the epileptiform convulsions render the meat more tender and give it a better appearance. 3. From the point of view of economy there is no more recommendable method of slaughter than the 'schechita,' for (*a*) the early onset of rigidity makes the meat fit for use sooner than any other sort of meat; (*b*) the decomposition is delayed, and the meat even in summer remains two to three days longer fit for use; (*c*) there is a much smaller quantity of blood and water in the meat, and the buyer is not imposed upon."

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*Handbook of Education: what a Parent should Know.* By MABEL HAWTREY. London: *Gentlewoman* Offices.

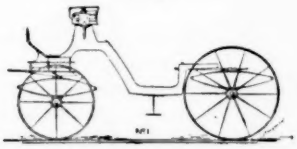
THIS is a useful book for parents, who are naturally anxious to give their children the best possible education according to the most improved modern ideas. Very often, from the ignorance of parents regarding the great advances which have taken place during the past few years in the teaching of the youth of this country and the existence of excellent schools keeping abreast of the time, their children do not obtain the best advantages. This book has been written by an authority on scholastic matters in order to assist parents in the difficult duty of selecting the proper places for the training of their children. The first chapter deals with education in general, by which is meant not only scholarly learning but the careful training of children's physical, moral, and intellectual natures, "which enables them to take a healthy and happy view of life, and gives them sufficient knowledge and strength to meet the dangers and troubles which they must inevitably encounter." Throughout the book attention is directed to the necessity of early developing the physique of both boys and girls. Some very excellent remarks are made regarding nursery hygiene and the inculcation of obedience, truthfulness, and honesty while children are quite young. The pure kindergarten system is fairly discussed. The choice of day, boarding, and preparatory schools occupies three chapters, and constantly references are made to the necessity of attention being paid to the best hygienic conditions as to sleeping accommodation, food, and systematic gymnastic and other exercises. In dealing with the choice of a house master in public schools there are some remarks worthy of serious consideration as to the moulding of the characters of boys at the most critical time of their lives. Suggestions are made as to the preparation of boys for the army, navy, merchant service, &c. We can recommend the book as a guide for parents in shaping the careers of their children.

# New Inventions.

## A NEW CARRIAGE FOR MEDICAL MEN.

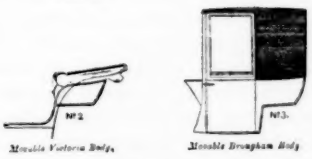
MEDICAL MEN will be interested in a new "interchangeable" or "convertible" carriage which has recently been introduced, and which is illustrated below. It has been shown at the Coaching Exhibition recently held at the Royal Aquarium. It is a radical change in the method of building convertible carriages. As will be seen by Fig. 1, the inventor, Mr. John Philipson, of

FIG. 1.



the firm of Atkinson and Philipson, Newcastle-upon-Tyne, builds a foundation consisting of wheels, undercarriage, and driving-seat, and upon this he places the movable bodies (Fig. 2 and Fig. 3), forming an open or a close carriage of perfect shape in either case, and free from

FIG. 2. FIG. 3.



such defects as draught, rattle, and complication of parts. This carriage will enable its owner in crowded towns, where coach-house room is scarce and dear, to keep an open and a close vehicle—for there are practically two carriages (Figs. 4 and 5)—in the space usually occupied by one, and

FIG. 4.

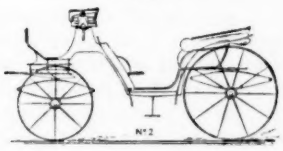
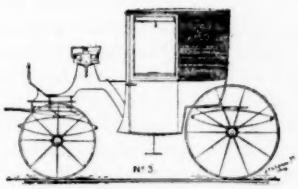


FIG. 5.



he will, we imagine, be liable for one licence duty only. The change from brougham to victoria, or *vice versâ*, is readily and easily made in the coach-house, and the carriage in either form cannot be distinguished from the ordinary private brougham or victoria.

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## THE "TELL-TALE" MILK JUG.

WE have received from the patentee, Mr. J. Lawrence, of 56, Fulham-road, a glass milk jug which is graduated, after the manner of an ordinary measure glass, to measure the quantity, and to afford a simple and useful test of the quality, of milk supplied by dairymen. The jugs are made in various sizes, to hold from one to four pints of milk, and are marked with quarter pint graduations. The method of ascertaining the quality of milk supplied is simple. By placing a certain quantity, say half a pint, of milk in the jug, and by allowing it to stand until the cream has set, the quality will be shown by the thickness of the cream, there being on the jug, below each measure, line graduations marked "average," "good," and 'very good." In inferior milk the cream will not reach the "average" line.

# THE LANCET.

*LONDON: SATURDAY, SEPTEMBER 15, 1894.*


SUCCESSFUL medical practice depends on a great many qualities in the practitioner. We propose to-day to examine one factor in the case which is sometimes overlooked. Before proceeding to do so, perhaps we should do well to define what we mean by successful practice. We do not mean merely the acquisition of rich and influential patients, and the reckoning of income and the profits of work by four figures. If this were the true definition of successful practice it would mean that the bulk of the profession had failed. We mean by successful practice the satisfaction of the patient as well as of the practitioner—the practice in which the practitioner indeed receives due remuneration for his anxious and incessant work, but in which the patient is conscious that he has received a corresponding advantage This advantage is not always synonymous with a cure. There are many patients whose diseases are incurable and yet who are most appreciative of medical service. We have known a patient in the advanced stages of Bright's disease say with a perfect sweetness and gratitude, "Ah! doctor, yours is a noble profession, but it has its limits." Regarding and defining successful practice as that which is beneficial alike to the patient and the practitioner, we propose to try to show to-day the enormous importance of the element of *diagnosis*. Of course the ultimate test and crown of all medical service is in the direction of therapeutics; but an essential preliminary to this is a just estimate of the case, of the conditions to be altered, or the errors to be rectified. The character of the practitioner is tested first by his insight into the case. This is becoming every day more and more a differentiating test between one practitioner and another, as methods of diagnosis are being more and more refined. The first great element of a good practitioner for purposes of diagnosis is a certain human sympathy with the patient. Without this quality in his medical attendant a patient might as well almost go into a druggist's shop as into the consulting room. In the one place as in the other, without this quick discernment of the human elements of difficulty and of suffering in a case, the patient is apt to be regarded as a mere receptacle for medicine, a case for a cough mixture or a tonic, whose troubles can be met by a stock prescription. Patients are often unskilful in the description of their sensations. Malaise is often ill defined, and even grave disease is often unsuspected and most inadequately complained of. The safe assumption for every true medical practitioner is that each patient who comes to him, whether he ails little or much, has some good grounds for coming, and is in a mood to appreciate sympathy and the expenditure of a few minutes in trying to realise his character, his habits, and his environment, and their relation to his complaints. It is the fatal defect of wholesale arrangements, like those of the medical aid associations and cheap dispensaries, that they are not consistent with attention to personal factors in disease, and so medical practice becomes mechanical, undiscerning, unsympathetic, and unrespected. The same results are apt to arise in private practice if the practitioner has a soul below his calling or a nature without sympathy.

But no amount of sympathy will make a complete diagnostician or even a tolerable one. The refinements of diagnosis are becoming so multiplied and technical that no one man can expect to keep pace with them all. The detection of bacilli promises to become almost a business of itself. And our columns show that practitioners will soon be relieved, if they please, and on payment of a small sum, of the duty and the trouble of this part of diagnosis. Dr. BILLINGS has told us lately that in his country such work has been delegated to a public laboratory, to which a practitioner can, without expense, send for bacteriological examination any specimen that is likely to elucidate cases of infectious disease, and that he can have a report on it in a very short time. Such facilities are likely to be necessary—at any rate in the immediate future—until the bacteriology of disease becomes much more complete than it is, and until it is insisted on as an integral part of medical education. But apart from this new region of work, and almost special work, in aid of medical diagnosis, there is much of the best work to be done in the way of painstaking diagnosis in ordinary practice, the doing of which or the neglect of it will make all the difference between satisfactory and unsatisfactory practice. The relation of the patient to his medical adviser deepens in interest and in intensity as the latter enlarges his view of the patient's ailments, and those of his family, and traces their relation to each other or to some common underlying diathesis or constitution dominating all. Ordinary and detached symptoms in such a view acquire fresh interest and significance and supply material for advice that may lengthen life and alter the whole complexion of existence. Many a mistake would be avoided, many a good reputation enhanced, by a careful examination of urine, or by a more frequent use of the clinical thermometer. Every test that gives precision to our knowledge in an art like medicine, and with material so various as human nature, is good. Not that we advocate fussiness in the practitioner and the disposition to see a cavity in every patient with a catarrh, or albuminuria or glycosuria in every patient who fancies there is "something wrong with his kidneys." No mistake is greater and none is more resented in a general practitioner than such a disposition. But even a catarrh, and still more a succession of catarrhs, have to be explained; so with a boil, and still more with a succession of boils; so with recurrent gastric crises and periodical headaches, and a hundred other symptoms many of which in themselves may seem trivial.

We have reserved to the last, but by no means for the least emphatic notice, the usefulness of cultivating the means of prompt detection of the common infectious diseases. In the case of the notifiable fevers, mistakes are made in public and may involve grave consequences to both patient and practitioner. One characteristic is common to all these notifiable complaints, and that is pyrexia; and this should be looked for in every doubtful case. Where it exists vigilance should

be doubled in order that other symptoms of an elucidating character may not escape observation. No haste should be allowed, but no time should be lost. No one demands or expects infallibility, even in the hospitals of the Metropolitan Asylums Board; but sound judgment and carefulness are nowhere more seemly than here, saving the individual patient from undue suspicion on the one hand, and the rest of the family and the public from undue risk on the other. The early diagnosis of infectious and notifiable diseases is an accomplishment to be cultivated in these days both by medical students and medical practitioners.

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WHEN we consider the number of anodynes and hypnotics that have been introduced within the last few years, and the freedom with which they are now prescribed and administered, it is impossible not to be struck with the wealth of means at our disposal for combating the ravages which pain and sleeplessness work on both mind and body. Antipyrin, acetanilide, sulphonal, trional, chloralamide, and others which might be named will be sufficient to indicate the extent to which our armamentarium has been strengthened. And yet when we think of the powerful effect which those drugs exercise, of the almost immediate relief to most distressing conditions which they so often furnish, it is impossible not to believe that there is "another side to the shield," and that those medicinal agents, blessings in their proper place, not uncommonly become curses and engender a condition of things which is infinitely worse than that to overcome which they were originally administered. When it is a matter of common knowledge that even such a nauseous drug as paraldehyde may actually become the seductive allurement to a harmful habit, it is scarcely to be wondered at if indulgence in other drugs, similar at least in the effects they produce, is occasionally carried to harmful excess. We cannot too strongly deprecate the free and irresponsible manner in which antipyrin, for example, is administered or is taken without medical advice asked or received. One thing in reference to this particular drug is quite certain—and its habitual "eaters" will be the first to acknowledge the fact—and that is that frequent indulgence, as with most drugs, leads to habituation, and that increasingly larger and therefore more harmful doses have to be taken in order to produce the desired effect; and, while the desired effect may be obtained with the larger and more frequent dose, the side effects, so to speak, are also produced more and more strongly, and the patient is in danger of suffering complete physical shipwreck, or at least of producing in himself such a condition of bodily weakness as must render him more liable to succumb to what would be, under other and more favourable circumstances, but a slight illness or a temporary disorder. We do not wish to undervalue this or any other drug of a similar class. Useful and helpful undoubtedly they are, but it should never be forgotten that they are only administered in order, as it were, to mask the painful effects which accompany some departure from physiological health, and that they do not of themselves restore normal function. The sufferer from migraine must not imagine that he is curing his migraine by taking such drugs; he is only saving himself from some of its effects, and unless radical measures are taken to prevent the recurrence of the disorder he will find that his dose of anodyne has to be repeated more and more frequently, and with increasingly disastrous results to his general health.

What has been said about anodynes applies even more strongly to hypnotics. Sleeplessness is no doubt one of the most distressing accompaniments of energy and intellectuality, and however efficacious or apparently harmless certain drugs may be in procuring sleep such rest is only obtained at some sacrifice and with a certain amount of actual risk. Many of the drugs which are used as hypnotics have been introduced so recently that their full dangers are neither known nor appreciated. Our readers, taking a mental retrospect, will remember how the harmlessness and efficacy of chloral were vaunted, but we now know what danger lurks in its crystals and what havoc it has wrought and is still working in many lives. Doubtless, artificial sleep has to be obtained sometimes, but it should always be remembered that, in treating sleeplessness with hypnotics, we are only treating a symptom, and that this distressing symptom, unless its cause be rationally combated by other means, will subsequently require stronger, and therefore more harmful, doses of its sedative. The medical profession has great responsibilities in regard to such drugs as we have mentioned, and too great care cannot be exercised in preventing patients from themselves having control of such powerful remedies. They are sadly prone to experiment, not on themselves only, but on their trusting friends, for whom drugs often have the fascination that squibs and crackers have for schoolboys; and in more than one instance within our knowledge the chance administration of a drug by one friend to another has had effects so appalling as to be almost incredible.

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IN an article which appears in another part of this issue of THE LANCET the subject of canine distemper is dealt with so far as one of its most frequent sequelæ is concerned, and the question of the occurrence of this morbid condition, chorea, and its relationship to endocarditis, is touched upon. Few animal disorders have attracted a larger share of attention than this specific fever of dogs, for from the time of ARISTOTLE upwards its great destructiveness in the canine species has caused it to be looked upon as a veritable plague from which few young animals could escape, and from which a large percentage must perish. Indeed, there have been outbreaks in which nearly all the dogs of a country have been swept off by it, as in Bohemia in 1028, France and Germany in 1714–15, South America in 1735, and America and Europe in 1761–64; and in this century there have been serious visitations, as in Peru in 1803, England in 1805, France in 1818, Siberia in 1821, and Paris in 1836. During its long history it has received various names, but from the symptoms enumerated by those who have described it at widely different periods there can be no doubt as to its identity. With regard to its nature opinions have varied. By some authorities it has been considered as variolous, others have looked upon it as a "mucous" fever, others again as a "nervous" fever, while a small number have allied it to human typhus fever. But if we have to seek its analogue among the

diseases of man we should be inclined to select scarlet fever or measles as the nearest approach to it, though even then there would not be many points of similarity. What is certain about it is that it is a very contagious and infectious febrile disease, readily inoculable in young animals, and possessing all the attributes of a specific disorder; it is not, however, special to dogs, for cats, foxes, wolves, and hyænas also suffer from it, and it can be readily communicated from one to the other species. The symptoms are chiefly catarrhal, the mucous membranes of the upper air passages being primarily involved after high fever has set in, though the inflammation often extends rapidly throughout the respiratory and alimentary tracts, and the conjunctival membranes are also soon implicated. Few diseases have so many complications, and the nervous system is particularly liable to become involved, one of the manifestations of this occurrence being symptoms of chorea, such as those described by Dr. MOTHERSOLE. These symptoms usually appear at an advanced stage of the disorder, and sometimes increase in intensity after the typical signs of the distemper have disappeared, not infrequently leading to a fatal termination; in other instances they gradually subside, though rarely going away altogether, twitchings of a limb or of the head remaining for a long time, or even for life. The pathological anatomy of the disease varies somewhat, as the symptoms exhibited during life indicate, one part of the organisation being more affected than another. The respiratory and gastro-intestinal mucous membranes generally show most evidence of the morbid processes, but the nervous system is constantly involved. Œdema of the brain is the usual alteration, with anæmia, softening of the nerve substance, flattening of the convolutions, humidity and dull appearance on section, and great increase of fluid in the lateral ventricles and subarachnoid space. In a smaller number of cases simple venous hyperæmia of the brain is found, marked by distension of the sinuses, the vascular plexuses, and vessels of the pia mater, and the appearance of blood spots on section of the brain tissue. A leucocytic infiltration of the cerebral substance, and especially of the walls of the bloodvessels, has been observed, with dilatation of the vessels themselves and accumulations of lymphoid elements in the perivascular spaces, these elements being even met with in the tissue of the brain and in the protoplasm of the ganglionic cells. In the spinal cord the alterations are not so notable, those generally met with being slight anæmia and œdema in the lumbar portion, though in acute cases it is not rare to find the envelopes highly injected with a serofibrinous exudate in the arachnoid and around the cord; but this has been in cases in which there was marked paralysis during life. When this had been acute the exudate has been discovered in the grey substance of the cord. In the chronic form, circumscribed interstitial myelitis, with partial atrophy of the nervous tissue, has been remarked. Other organs show traces of change, chiefly in the form of degenerations, and this is noted in the myocardium, in which segmentation and fatty degeneration of the muscular fibres are almost constant features when the disease has been protracted. But it is very uncommon to find such valvular lesions as those so carefully enumerated by Dr. MOTHERSOLE; so that we should be disposed to look upon them as exceptional, and as having very little or no relationship to the chorea with which the dog was affected. Most careful post-mortem examinations carried out for a number of years have not revealed any cardiac alterations like those referred to, and yet in many of the chronic cases the symptoms of chorea were a prominent feature.

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A CASE reported in the *Singapore Free Pre s* of July 31st last induces us again to notice the effects of the repeal of the Contagious Diseases Acts in the Straits Settlements, to which reference was made in THE LANCET some weeks ago at some length. The case formed the subject of a trial on July 19th, before the Lord Chief Justice and a common jury, and the heading of the report in the local paper is "A Terrible Case: Miseries of a 'Ripon' Slave." The prisoner, a young Cantonese girl, was charged with attempting to commit suicide on May 27th last. She was the inmate of a brothel, and on the morning of the 28th, when the servant went to call her for breakfast, she found her lying in bed unconscious, and by her side was a pot containing opium. The keeper was at once called and the prisoner was removed to the hospital, where she was attended to and recovered. When charged before the magistrate she made a statement to the effect that she had no intention of taking her life, but admitted taking a small quantity of opium in order to get away from the brothel. Her story was corroborated by Mr. MCCLOSKY, who found her suffering from an overdose of opium, from which she soon recovered, being able to leave the hospital next day. In his opinion only a very small quantity could have been taken. The prisoner was called and examined upon her oath. She stated that when she first went to the brothel she was well treated. Later she became infected with venereal disease and had buboes. She informed the keeper, who said she was only pretending, and when she told her that she could not take men in that state she abused her, struck her, and threatened to take her elsewhere and to sell her. She also told her that if the police found she was diseased she would be locked up. She became frightened and continued her calling. Some time before taking the opium a man, finding she was diseased, refused to pay her, on which the keeper beat her. She asked to see the Protector, but was not allowed to go out, the keeper and the servant stopping her. The night before she took the opium a man visited her; he sent for some opium, but refused to pay her, on which, fearing she would be beaten again, and wishing to get out of the brothel, she took a little of the opium which the man had left. She was afraid of the keeper and at the time she gave her evidence was still suffering from disease. She wanted to see the Protector, who she knew would help her if he heard her complaint. The jury returned a verdict of "Not guilty," and the prisoner on being discharged cried out that she might be allowed to go to see the Protector, so as not to be taken back to the brothel. An officer of the protectorate being present in court, she was at once taken by him to the Chinese protectorate, when it was understood that her name was removed from the register of the brothel. Such are the facts which we have condensed from a much fuller report. It will be seen how completely all that was foretold as to what would be the result of repealing the Contagious Diseases Acts has been realised. What would have been the fate of this girl

had she not taken the poison? We are informed by competent authority that she would, when no longer able to remain in the brothel, have been sold to some speculator, who would have taken her away to some remote place, there to continue her wretched life until released by death. Those who opposed these Acts called them "the State regulation of vice." Will they be surprised to learn that the present state of matters is called in the Straits Settlements "the State-aided propagation of syphilis," and that it is regarded as an unspeakable crime? How long is it to continue?

# Annotations.

"Ne quid nimis."

## BRIBES TO MEDICAL MEN.

OUR readers will remember the painful case before the courts last year in which certain medical men were shown to have accepted founders' shares in a limited company on the understanding that they recommended and spoke favourably of its wares. The judge passed no judgment on the morality or immorality of the action of the medical men, remarking that that was a matter for the consideration of the General Medical Council. The latter body had the facts under its consideration in November and expressed its condemnation of the action of the medical men in accepting such shares and giving testimonials of this nature. Strange to say, the evil thus seriously noticed by the courts and the General Medical Council seems still to exist. We have before us a circular sent by an enterprising company to a medical man intimating that it is going to bring out a new—a very new—kind of champagne. Amongst other ingredients it is to contain compound syrup of the phosphate of iron. It is to "sparkle" and to comport itself in other ways as a wine "sound, wholesome, and suitable for invalids." The circular obligingly intimates that a sample bottle will be sent and suggests that the happy receiver may see his way to recommending the champagne to patients. But the circular is still more kind, ending with the following irresistible paragraph: "At the same time, when writing, will you kindly say if we may do ourselves the pleasure of sending you a small case, say half-a-dozen, *for your own use*, free of charge and carriage paid?" It will scarcely be credited that some medical men seem to have accepted the bait offered, and copies of two testimonials are given in favour of the champagne. The writers (medical men) not only give a rosy character to the new wines described over their testimonials as "sound, wholesome, fruity, sold by all grocers and wine merchants," but, alas, accept the offer of a case for their own use. We remind these gentlemen of the case of McDonald, Sons, and Co., and the resolution of the General Medical Council. There may be some mistake in this use of their names; we sincerely hope so, and therefore we omit them. However, we wish to put all medical men on their guard against such vulgar appeals, which ought to be resented with indignation.

## THE ARMY AS A CAREER.

As it frequently happens that the sons of officers of the Army Medical Service, amongst others, are candidates in the competitive examinations for admission to Woolwich and Sandhurst, the prospective advantages offered by the army at the present time will naturally be scanned with much interest by both candidates and their parents. The *Broad Arrow* of last week contained some very pertinent remarks on this subject which merit consideration. Our contemporary points out that as regards promotion in all arms of the service—particularly in the Royal Artillery and in the Infantry of the Line—those now entering will have to wait longer than others have done in the past for their promotion, and that the chances are in favour of their compulsory retirement in the ranks of Captain and Major. The number of vacant cadetships advertised for the Royal Military Academy is forty-five at the present time, whereas it was for many years sixty, and fifty was regarded as a minimum for each of the half-yearly competitions. The standard for Woolwich is the higher one, but the large number of candidates for both the Royal Military Academy and the Royal Military College gives rise to a keen competition, with a corresponding severity of the examination tests. A candidate has nowadays to possess natural ability, and to be highly trained, and to have made the best use of his educational opportunities in order to be a successful competitor at these army examinations. He has often to wait for a long time after passing out from the Royal Military Academy or the Royal Military College before being commissioned, and the pay he receives when commissioned is very small, so that it seems wonderful the army should attract the large and ever-increasing number of candidates that it does, especially when the prospect of compulsory retirement at a relatively early age has to be taken into account. Of course, there is a glamour attaching to military life which cannot fail to be attractive to young men, and the pay is certain, if very small; to which there has to be added the great and increasing difficulty of finding outlets for their employment in other directions. Financially, the Army Medical Service has advantages, at any rate, as compared with other branches of the service; and the Indian Medical Service especially still offers the best prospects for a young man desirous of entering one of the public medical services.

## THE NEED FOR PUBLIC SLAUGHTER-HOUSES.

THE evils of private slaughter-houses, whether from a sanitary or a humanitarian point of view, are so obvious, and the advantages—or, more accurately, the convenience of retaining them—so doubtful, that the determined opposition presented by the trade to their closure is strongly suggestive of motives less pardonable than even an obstinate and unreasoning adherence to old habits and so-called vested rights to which the licensing authorities weakly defer. The difficulties placed in the way of the inspector are enormous, for diseased cattle are not sold in the open market, and the "dressing" of their carcases may be done in such places at hours when the inspector cannot enter without a warrant. Some years ago a town councillor in the provinces, himself a butcher, opposing a motion for the establishment of a municipal slaughter-house, or abattoir, significantly observed that he "would not like everybody to see all the stuff he killed." But the question has been, we hope, reopened by a recent correspondence in the *Standard*, in the course of which a gentleman, who, while withholding his name from publication, declares his readiness to communicate it and his facts to any persons who may take up the matter in earnest, asserts that he had in a professional capacity been for several successive days an unwilling witness of the most horrible cruelty—that it was the regular practice to throw the sheep, the moment after they had been "stuck," on to their backs in a wedge-shaped trough, and as they lay helpless, but still quite alive and conscious, to set to work by first breaking their legs and then proceeding to flay them. We do not suggest that one master butcher in a hundred would defend such diabolical cruelty, or that many of them are even aware of its existence, but, since slaughtermen are not likely to be naturally endowed with, or long to retain, very tender feelings,

the mere possibility of such deeds should be precluded. It is useless leaving the matter to local action, but surely a Parliament that can find time to hamper the work of the physiological, pathological, and bacteriological laboratories, and the fanatics who will be satisfied with nothing short of the prohibition of the simplest experimental inoculation, might show their sincerity by boldly attacking the abuses inseparable from the existing system. Probably, if truth were told, they fear the united action of the trade at the polls. Dr. Dembo, whose book on the subject we review this week, and who was sent out by the Russian Government to report on the modes of slaughtering followed in different countries, pronounces unhesitatingly in favour of the Jewish "scechita," alike on grounds of humanity and of the wholesomeness and keeping power of the flesh. He considers the French pithing as objectionable, complete division of the medulla being anatomically impracticable, while our poleaxing is, according to him, the clumsiest and most brutal of all, it being only by a rare accident that the ox is stunned by the first blow, and often several minutes elapsing before the beast succumbs to repeated hammering. There is now scarcely a large town in Germany, Italy, or France where public have not been substituted for private slaughter-houses. England alone holds back, for central aggregations of private establishments, though somewhat better than dens in holes and corners, are quite another thing. Publicity is essential—not, indeed, exposure to the vulgar gaze, but in the sense that the animals shall be submitted to expert inspection while alive, and their flesh examined after death; that every operation of slaughtering, dressing, removal of offal, &c., shall be performed under the eyes of officials; while for sanitary reasons the offensive processes in the subsequent preparation of hides, fat, guts, dung, &c., may be carried out on the spot and with all proper precautions.

## HIGH TENSION AND HIGH ALTITUDES.

THE painfully dramatic death of Baron Peccoz in presence of the Queen of Italy when guiding Her Majesty down a glacier on the Swiss side of Monte Rosa is not more interesting in itself than important for the warning it conveys. The Baron, a millionaire, possessed of vast mining wealth in Belgium, had made himself the Mæcenas of the Gressoney region, first as a benefactor of the mountain population and next as a pioneer and promoter of the exploration of the magnificent Pennine Alps. Himself an experienced and intrepid climber, he had placed his knowledge and his means at the service of Queen Margherita, facilitating her progress through that favourite excursion-ground of hers, constructing mule-paths and halting-places, and even building a chalet and furnishing it appropriately for Her Majesty's convenience. He had conducted the Queen up the hazardous ascent of the Lysjoch, and was, as already stated, piloting her down a glacier under the Punta Dufour of the Monte Rosa, when, in the act of exclaiming "Guardi!" ("Look out!") at a dangerous part of the descent, he fell on the ice a few paces in advance of her and died almost instantaneously. The Queen's consternation and grief were indescribable; but there was no possibility of retracing the ground already traversed, and so Her Majesty had to pursue her journey to the Riffel Alp, above Zermatt, where the body of Baron Peccoz received all due attention till it could be conveyed to Gressoney. This is but another, if peculiarly tragic, illustration of casualties which occur every tourist season on the Alps and by no means for the first time reinforces the warning so often unheeded from professional lips against the practice of mountaineering when the heart and circulatory system are unsound or even slightly impaired. If there is one fact better established than another in "animal mechanics" (as the late Sir Charles Bell used to term it) it is that by the inspiration of a highly rarefied air the thoracic viscera become congested and the heart full, with collapse of the jugulars. This is a very serious condition to induce in most sexagenarians. In the Baron's case his cardiac symptoms had apparently not been such as to counsel his desisting from his favourite pastime, and he had completed the first part of his safe-conduct of the Queen without distress or even discomfort but it was on the immediately subsequent ordeal that the surcharged heart gave way—its atheromatous condition having proved unequal to the prolonged strain. The question arises: How many of the casualties set down to the victim's having "missed his footing" are really attributable to sudden cardiac failure? Post-mortem examination might tend to show, in more cases than are imagined, that the "accident" has simply been due to syncope or aneurysmal rupture supervening at a spot where, even in the healthy, a momentary false step might of itself endanger life or limb. Be this as it may, we can quite endorse the conclusions come to by last year's Congress of Physicians at Arosa that imminent danger is in store for the travelling public not only by ill-advised pedestrianism on Alpine ascents but even by those funicular railways whereby the tourist, male and female, in all conditions of cardiac degeneration, are "ballooned" in a few minutes up to altitudes in which the rarefied air can be breathed with impunity only by the young and robust. The immediate occasion of the Congress in question was the projected construction of a "Drahtseilbahn" (rope railway) up the Jungfrau some 12,000 feet high. It was proposed, and after discussion carried, *nemine contradicente*, that if such railways are to become general throughout Switzerland (and there are not a few of them already) the companies responsible for them should have a medical staff at either terminus to give advice when required before the ascent, and to render what aid may be necessary after it in the event of "casualties" occurring. The "playground of Europe" has already had too much to answer for (witness the cemetery with its monumental inscriptions at Zermatt) to make the counsel of the Swiss physicians other than well-inspired and opportune.

## THE EXPLOSIONS AT WALTHAM ABBEY.

IT will be remembered that a committee appointed to inquire into an explosion which took place on Dec. 13th, 1893, at the Waltham Abbey explosives factory was led to report the existence of grave defects in the system of discipline and precautions prevailing there. By a coincidence this report was published within a few weeks of a more fearful disaster, which took place in the nitro-glycerine sheds of the cordite factory, by which four lives were lost. Thus the conclusions contained in the report referred to would appear to have received terrible confirmation. In two articles which were published in THE LANCET of May 12th and 19th, 1894, respectively we strongly urged the desirability and the immediate necessity of preventive steps being taken, for the frequency of the explosions at Waltham had become such as to give no security to the operatives engaged in the processes preparatory to cordite making, or to the public residing in the neighbourhood. The committee which was originally appointed to investigate the accident which happened on Dec. 13th, 1893, has now, at the request of Mr. Campbell Bannerman, included in its inquiry the more disastrous explosion which took place on May 7th last. Without entering into the details of this report it is sufficient to state that the committee now intimates its "plain and decided conviction that the position, or more strictly the distribution, of the buildings where nitro-glycerine is made is eminently unsatisfactory, and that the greater part of the buildings are much more crowded together than is safe or proper, the factory at Waltham not being suitable nor adequate in

point of position, arrangement, and extent to such an output of nitroglycerine and cordite as has recently been coped with." The result of the inquiry has led the committee to express the necessity of immediately adopting the following measures: (1) Redistributing the buildings of the present factory in such a way as to conform to reasonable conditions of safety; (2) adapting the output to the conditions of the factory when such redistribution has been effected; and (3) establishing a duplicate factory on some suitable and separate site. Finally, the committee expresses the opinion, which we strongly share, that a factory like that at Waltham Abbey, and more especially that branch which deals with the manufacture of high explosives, should have the constant services of a chemist of high standing and of long special experience in these departments of chemical industry, and that this official should have responsible control over all the manufacturing operations, as well as over the quality of the materials used in that branch of the work which deals with chemical explosives. It will be gathered that the report is, as it should be, of an exhaustive and searching nature, and one, it is to be hoped, that will reassure the public and allay the anxieties of the operatives; but, at the same time, it increases rather than diminishes our feelings of sad surprise and astonishment—as we feel sure it will also the feelings of others—as to why such a defective state of things was ever permitted to exist, and why it was that evidence of such an awful and practical nature was obtained of the carelessness with which nitro-glycerine was apparently handled before the defects admitted to exist in the report were brought to light.

## THE FRENCH ACADEMY OF MEDICINE ON CYCLING.

THE Academy of Medicine of France has taken up for discussion the subject of cycling and its effects on health—the first occasion of the kind in a society purely medical, although one of the greatest moment. It is a singular fact that the learned of the French profession should have led the way in this matter, seeing that the art and practice of cycling have gained so remarkable a place in this country; but it is satisfactory that the subject has been started, for few of medical import are more deserving of study and discussion. In the Academy Dr. Petit—good historical name—opened or took a leading part in the debate. He had met with three fatal cases of persons suffering from heart disease in whom death seemed to be accelerated by the practice of cycling. He also argued that as in the streets of Paris there are at the present time no fewer than 100,000 persons who ride on cycles, and that amongst these there must be one in every 100 suffering from cardiac disease, the danger of cycling is much greater than is generally supposed. In the young this danger will be, to some extent, minimised; but in persons of middle age, like those to whom Dr. Petit specially referred—one of whom was sixty years and the two others forty years old—there must be a maximum of danger from the pursuit. He held also that amongst the young who were not suffering from actual cardiac disease the excitement incidental to travelling through the streets of a crowded city, in the midst of the most varied traffic, was of necessity attended with bodily risk, both from external collision and from internal strain and injury. The testimony thus borne is specially valuable to ourselves owing to the part which, through good and bad report alike, we have uniformly taken in this controversy. It is many years now since we entered the lists, always with a certain approval of cycling, always seeing that it had a great future before it, always observing that within certain reasonable limits it aided largely as a sanitary pastime, bringing health to those who by its means found themselves able to escape from the close and vitiated air of town life into the pure and life-giving air of the meadows and open fields, and always admitting that in some carefully selected cases of disease it afforded even a method of, or an aid to, successful treatment. We expressed last week what we hope was, and what we think most people have conceded to be, the common-sense of the argument. We have warned, as Dr. Petit has warned, riders of all periods of life to be moderate in their application of the pleasure, or pastime, or competition, or work, of cycling. We have admitted that many of the experiences that have been learned about cycling are amongst the marvels of the century—the attainment, for instance, of an art that enables a man to compete, not with a horse, but, far beyond that, with a steam-engine, coursing away at twenty-five miles an hour. We have treated on some advantages of cycling to the aged, and have shown that the muscles of an octogenarian can be redeveloped to a great extent by the exercise. We have honestly admitted every word that can fairly be spoken in favour of the exercise. But we have given equally honest attention to its faults and dangers, and we shall continue to do so, assured that the profession and the public at large will listen to what we hope is a judicial and altogether unbiased expression, until through the whole of the cycling community sensible reforms and moderate counsels have asserted their power over dangerous competitions and unrestricted enthusiasm.

## THE ARMY VETERINARY DEPARTMENT.

THE annual statistical and general report of the Army Veterinary Department for the year ending March 31st shows that the health of our Army horses continues to be satisfactory, and consequently their efficiency is maintained at the standard arrived at some years ago. There is not much in the report that is noteworthy beyond the fact that the inefficiency from accidents and disease was a trifle less than in 1893, as was the mortality, which was highest in the months of September, August, March, and July, and lowest in January, February, and November. The average number of days each horse remained under medical treatment was the same as in the years 1891 and 1892—viz., twenty-one days. The surgical diseases and injuries were, as usual, the cause of the largest number of admissions; of 5820 8 died and 106 were destroyed, 44 of the latter for fractures of limb bones. There was a large decrease in the admissions for diseases of the chest and air passages, due, no doubt, to the milder weather of the year. There were no cases of glanders, this being the sixth year in which that serious disease has been absent from troop stables. Adenitis, or "strangles," as it is popularly designated, was not so prevalent as in the preceding year, and as this is a purely infectious disorder and can be suppressed this diminution is probably owing to the enforcement of sanitary measures. With regard to age in relation to health and mortality, the admissions to hospital treatment were great among young horses, gradually diminishing as they became more seasoned. The average age of all the horses serving during the year was two months more than in 1892, being eight years and eleven months; the greater number were five years old, but there were 700 aged sixteen years and upwards. In Egypt the admissions were increased, but there were no cases of glanders among the horses, though that disease was prevalent among the horses of the Egyptian army and police. In South Africa the admissions for the year were also increased, and the mortality was much greater, owing to an outbreak of "horse-sickness," an essentially African disease. The Army Vaccine Institute at Aldershot continues to be successfully carried on, the number of persons for whom lymph was cultivated during the year being 42,128, and this, with what remained from the last year, was considered

to be sufficient for the vaccination of 45,857 people. Of this lymph enough for 43,064 individuals was issued. The results of 41,572 vaccinations are given, from which it appears that at home stations the percentage of successful primary vaccinations was 96 per cent., and of revaccinations 89·55 per cent. The results at foreign stations were not so good, which is ascribed with some probability to climatic influences. The number of calves inoculated during the year was sixteen, each calf giving, on an average, lymph for 2633 persons. Since the establishment was commenced under the auspices of the late principal veterinary surgeon, Dr. Fleming, in January, 1889, up to March, 1893, lymph for 206,597 people has been prepared at a very small cost, that for the year we are now noticing being only £72 10*s.* 5*d.* The Director-General and officers of the Army Veterinary Department are to be congratulated on the success of their efforts to maintain its high reputation, as testified by the results given in this annual report.

## EPIDEMIC SKIN DISEASE AT SHOREDITCH INFIRMARY.

AN outbreak of skin disease has occurred at the Shoreditch Infirmary similar to the outbreaks which occurred in metropolitan infirmaries about three years ago. Samples of milk and water were sent to the bacteriological laboratory, King's College, in June last. Professor Crookshank has recently reported the result of his investigation to the guardians. The results tend to confirm those obtained in the investigation of the outbreak at the infirmary at Bethnal-green. In that case the milk did not reach the required standard of purity, but the results were negative as regards the origin of the epidemic. The water and milk of the Shoreditch Infirmary were used for a series of careful experiments and analytical examination. Some of the samples of milk were condemned, and Professor Crookshank reported that a better quality ought to be supplied to the infirmary. No micro-organisms, however, were found in the milk which would account for the epidemic; but, nevertheless, the milk-supply, in accordance with Professor Crookshank's advice, was stopped, and we understand that the outbreak has been reported to the Local Government Board, and that medical reports will be issued in due course.

## THE DIFFUSION OF SMALL-POX.

THE information coming to hand respecting the prevalence of small-pox last week is, speaking generally, indicative of a decline of the disease. The admissions to hospital in London during the week did not exceed four in any one day, and reached that number only once, whilst on two days the admissions were *nil*, totalling only 13 in the seven days; the end of the week found 119 patients still under treatment in the institutions of the Metropolitan Asylums Board, and 10 others in the Highgate Small-pox Hospital, making 129 in all. There were 6 deaths in the week. The Marylebone (Portland Town and Lisson Grove) epidemic seems to be entirely at an end, but some other parishes and districts in the metropolis are not quite free, among them being Fulham, Paddington, Newington, and St. Pancras, whilst West Ham also contributed cases. There seems to be ground for the hope that the small-pox scare at Willesden has been settled by the success attending the preventive measures so promptly adopted locally. In the Midlands news comes of the disease at Birmingham, Walsall, Wolverhampton, and Willenhall. At the latter place it seems that of 195 cases admitted to hospital 12 have died, 11 being unvaccinated persons, and the single death in a vaccinated person being that of an individual having only one faint scar. There were three attacks at Hartlepool last week, and at Tynemouth the guardians decided by 11 votes to 9 to prosecute defaulters under the Vaccination Acts, holding that, pending the report of the Royal Commission on Vaccination, the law must be administered, and that abundant testimony as to the value of vaccination exists. On Monday of last week a second death occurred from small-pox at Kirkcaldy, the victim being the husband of the patient who died there of the disease a fortnight before. In Dublin the disease has prevailed now for some time, the following being the official figures for August:—

| Week ended. | Cases admitted to Hospital. | Deaths. | Under treatment at close of week. |
|---|---|---|---|
| Aug. 4th ... ... ... | 9 | 1 | 22 |
| ,, 11th ... ... ... | 26 | 1 | 44 |
| ,, 18th ... ... ... | 37 | 3 | 78 |
| ,, 25th ... ... ... | 14 | 6 | 79 |
| Sept. 1st ... ... ... | 16 | — | 82 |

## CHILDHOOD'S DANGERS.

MOST of us have marvelled at times that the steps of childhood travel along the pathway of life as safely as they do. Their own inherent and abundant heedlessness, and the more culpable unconcern of busy or careless parents, render their escape amid the accidents of everyday experience little else than miraculous. Their trivial duties, their pastimes, their very toys may, and do, become the occasions of injury. In an instance recently published some children were amusing themselves with a model steam-engine; while thus occupied one of them was burned to death. The letter of a correspondent suggests another and more subtle source of mischief. Walking in the street, he saw a street vendor offering for sale toy bagpipes, which he tested in turn by blowing in the usual way with his mouth. Naturally enough the suggestion presented itself as to the possible consequence were any of the child public to purchase and use, as doubtless they did, the toys inflated with such questionable breath and perhaps wet with contagious moisture from questionable lips. Such dread as this is neither morbid nor visionary. Fresh air will not always suffice to cleanse a breath residue, and an infected mouthpiece has before now been the origin of grave constitutional troubles. We might, however, multiply cases of a like or of different kinds, each illustrating the necessity of parental supervision over children thus surrounded by little suspected pitfalls. We do not forget that busy people cannot be constantly looking after their juvenile offspring. Nevertheless, we are certain that more careful supervision is easily possible. Were it exercised we should less often hear of children run over, burnt, drowned, or otherwise lost to their homes, for no reason but that they were left to their own incapable guidance.

## THE BRITISH INSTITUTE OF PREVENTIVE MEDICINE.

THE trustees of the late Mr. Richard Berridge have, with the consent of the Attorney-General, now handed over to the Institute the residue of the legacy, amounting to over £20,000, for the purpose of building and endowing a laboratory for the chemical and bacteriological examination of water-supply and the investigation of processes of sewage purification. The permanent laboratory is now in course of erection on the site secured by the Institute at Chelsea, but, pending its completion, a temporary laboratory has been fitted up in order that the work may be at once proceeded with. Mr. Joseph Lunt, B.Sc., F.C.S., formerly assistant to Sir Henry Roscoe, has been appointed by the Institute to carry on this work under the Director's supervision. The Institute is now, we understand, prepared to undertake the bacteriological and chemical

examination of any samples of water which may be submitted. In addition to this the Institute will give expert assistance in the bacteriological or pathological diagnosis of any pathological material. The demand for this kind of work has greatly increased, so much so that, although Dr. Ruffer will still retain charge of this department, a specially trained bacteriologist has been appointed to work under his direction. Particulars may be obtained by writing to the Director at the temporary offices of the Institute, 101, Great Russell-street, London, W.C.

## THE FAITH CURES IN WALES.

IF any process be discovered which tends to the relief of suffering, something has been gained by the science and art of healing, something akin to them, and which cannot in the order of nature—which is also super-nature—be either discordant or adverse. Therefore we do not altogether repudiate as absurd the "miracles" which in all times and places, from ancient Egypt to St. Winefride's Well, have exercised the faith and the feeling of mankind. We would, nevertheless, in the very interest of truth, be forward in seeking the explanation of these phenomena, which is as well within the rightful province of human intelligence as the most unquestioned results of bygone investigations. According to the published accounts of them, the "miraculous cures" reported to have recently taken place at St. Winefride's Well, in Flintshire, conform for the most part, and probably altogether, to the type of those in which the healthy change in diseased parts is due to nervous agency. The deaf, the blind, the cripple—these are the marvels of recovery. It is in further accord with scientific explanation that the "cure" does not appear to have been in every case complete. A blind man, for example, returned seeing with one eye; in other words, this organ retained in temporary abeyance (causal details are not given) the power of vision, which was energised probably by a timely return of the central nerve force. A cripple on approaching the spring dived into it and forthwith abandoned her crutches. There is here a strong presumption of arthritic stiffening or of merely functional paralysis. It would be much more satisfactory on every ground to have as full details as possible of the history and course of such cases rather than the meagre and one-sided statements published. Natural causes, we feel confident, would then be found to coincide exactly with the so-called supernatural in effecting the result. We are pleased to see that among the Roman Catholic clergy, who have interested themselves in the reputed virtues of this well, some belief is placed in the curative force of a reawakened will.

## THE TREATMENT OF RUPTURE OF THE UTERUS.

IN the *Archives de Tocologie et de Gynécologie* for July Dr. Loin records two cases of rupture of the uterus. The chief dangers that threaten the patient when this accident occurs are hæmorrhage and septicæmia, and therefore it is more especially to combat these that any treatment likely to prove successful must be employed. Dr. Loin's first case was one of transverse presentation in a multipara aged twenty-seven. The membranes had been ruptured three days when the patient was seen, and the uterus was tonically contracted; nevertheless, Dr. Loin easily performed podalic version and extracted a decomposing female child. The placenta was removed with the hand. A complete vertical tear of the posterior wall of the lower segment about eight centimetres long was then discovered. There was a good deal of hæmorrhage at this time. A Sims's speculum was passed, the cervix was seized with volsellæ, and a thick roll of iodoform gauze was packed into the uterus with the object of arresting the hæmorrhage partly by its direct pressure and partly by exciting the uterus to contract. Another strip of iodoform gauze was passed through the rent in the uterine wall into the peritoneal cavity. A firm compress was also placed on the hypogastric region. The patient seems to have done pretty well till the fourth day, when the intra-peritoneal plug of iodoform gauze was changed. While this was being done hæmorrhage recurred, and the patient died the same evening. In the second case rupture of the uterus occurred during the process of extracting a fœtus at the fourth month of pregnancy. The diagnosis of rupture was here made by passing the sound, which entered for its whole length, and by ascertaining that the distal end was obviously in the cavity of the peritoneum. In this case, as in the other, two plugs of iodoform gauze were used, one to plug the uterus, the other being passed through the rupture into the peritoneum. Here the gauze plug in the abdomen was not touched for "many days," and the patient recovered. The treatment described seems well worth trying in cases of rupture of the uterus where the fœtus and placenta have been removed per vaginam. The manipulations necessary to carry out Dr. Loin's method have the advantage of being simple and adding little to the existing shock, at all events as compared with any measures involving an abdominal section.

## THE LATE BRUGSCH PASHA.

PROFESSOR HEINRICH KARL BRUGSCH, whose death occurred at Berlin on Sunday last, was an Egyptologist and philologist of European celebrity, and in both capacities combined the qualities of the practical investigator with those of the literary exponent. He lived both at Cairo and Berlin as an official curator of Egyptian curiosities and a person of political authority. He was an ambassador in Persia, and a Professor of Oriental languages and Egyptology at Göttingen and Berlin Universities. At the different international exhibitions in Vienna, Philadelphia, and London he was the leading organiser of the Egyptian departments. He had travelled considerably in the East; but in spite of the busy life thus indicated he found time to write voluminously and authoritatively upon the subjects he had made his own. His earliest production was published when he was only twenty years of age, and was a Latin treatise upon the Demotic writing of the Egyptians, and among his other works may be mentioned a History of Egypt under the Pharaohs, a Hieroglyphic Dictionary, and a monograph on the monuments of Egypt. He received the title of Pasha in 1881 upon his resignation, after twelve years' tenure, of the custody of the Egyptian collection at Boulak, a post to which he had succeeded upon the death of his former master, M. Mariette, the great French archæologist.

## THE GROCER'S LICENCE IN RELATION TO DRUNKENNESS.

THE Wine and Refreshment House Act, added to the statute book in the year 1860, has been sufficiently tested by practice to justify some conclusive form of inquiry into its effects and its title to continued existence. It was scarcely to be expected that the advantages claimed for this measure would be enjoyed without a drawback, but we may freely say that certain of its most damaging imperfections could not have been anticipated by those who framed it. There is, unfortunately, strong evidence to show that during the period of its operation no little public mischief has resulted, and this as a consequence of its native character and method. This has been proved by the freedom with which the so-called grocers' licences, which it has created, have been abused—by women more especially—for the indulgence of a drunken habit. There can be no doubt as to the facilities which are thus afforded to such persons. We are, therefore, of opinion that the time has

come for careful reconsideration of the whole question respecting the issue or abolition of these licences. We do not deny their occasional convenience—as, for example, in country districts, where the public-house and the inn, practically one and the same, are the only other houses permitted to sell spirits or wines; nor would we insist that persons who may desire to purchase either for legitimate or necessary use should be obliged to seek it at a common bar. We hold it to be, however, an essential qualification of the grocer's licence that it be exercised by that trade, if at all, within the limits of public necessity—that is, in the way of *bonâ-fide* domestic trade; that the sale of liquor in every instance be registered, as is that of poisons by druggists; and that the privilege allowed to the grocers be not granted to others, as drapers, confectioners, and the like, who may wish to assimilate some portion of their trade. Of course, it is understood that consumption of alcoholic drinks on the premises of sale is under no circumstances permissible under this Act. Whatever may be the results of such an inquiry as we have suggested, we are confident that a searching and comprehensive examination of this subject is called for, and that the "grocer's licence," as now regulated, is a source of increasing and intolerable mischief.

## NURSES FOR THE POOR.

WITH Lord Rayleigh as president and the Countess of Warwick and Lady Rayleigh as vice-presidents, the Essex County Cottage Nursing Association has for its object the bringing within the reach of the poor the benefits of skilled nursing. Between those able to afford the services of a highly trained nurse and the recipients of parish relief there are a large number of industrious poor who are unable to obtain the services of a skilled nurse, and it is principally in the interests of this class that the association has been formed. The nurses will be specially trained for cottage nursing, and, being chosen from persons accustomed to cottage life, will be willing to give a little help in the house, and otherwise assist in relieving the anxiety of the sick and afflicted. For the sum of £33 per annum a trained nurse will be supplied to a parish or group of parishes, and to parishes that cannot afford this amount a nurse will be sent for suitable cases on payment of an annual sum of £1 for each 100 of the population. Subscriptions and donations may be sent to either of the honorary secretaries, Mrs. Chancellor and Dr. John C. Thresh, Chelmsford, who will be pleased to supply further information and to give advice to those who desire to form nursing districts. It is proposed by lectures and other methods to spread a knowledge of the laws of health among the rural population.

## HOLIDAYS IN IRELAND.

MANY thousands of persons, English and Scotch, who have enjoyed the pleasures of a Continental tour—have visited foreign spas, have climbed Norwegian hills, and crossed the Swiss lakes, have never set foot on Irish soil. It is difficult to discover a reason for estimating the advantages derived from travel in direct ratio to the sum expended on locomotion and the distance covered. Ireland is pre-eminently a country of natural beauties. It contains within itself the attractions in miniature of a whole continent—a country of rivers and lakes, of woods and fells and sweet valleys. Its geology has a never-failing interest, and the botanist finds rich treasures in its soil. To the sportsman it is a land of delights. Its rivers abound with fish; its hills are rugged and picturesque, like its rocky coasts; its people everywhere have points of interest for the tourist, and the Irishman as a host is unsurpassed for cordiality and generosity by any in the world. The untravelled Englishman has somehow or other got it into his head that Ireland is a country of bogs, varied here and there with some lovely spots. Mr. Michael Davitt thus describes the attractions of Irish scenery. "For joint landscape and sea views I would challenge any spot on earth to compare with the view that can be had from the top of Killiney Hill, embracing a hundred miles of indented coast-line, the cone-shaped Wicklow Mountains, wooded valleys, and almost every other feature that charms the eye in nature's rich adornment. There is not a single county round our coast that does not possess natural attractions that would repay holiday-seekers for a visit and entice such visitors to come again. In Connemara we possess a miniature Switzerland with scores of climbable mountains, lakes round every corner, and almost everything that the eye loves to dwell upon in nature." Those who are familiar with Ireland will appreciate the accuracy of the description and will hail with satisfaction the efforts which are being made by the Association for the Promotion of Home and Foreign Travel in making the country easily available for travellers. The railway companies are lending their practical assistance.

## THE NEW ACT FOR THE PREVENTION OF CRUELTY TO CHILDREN.

THE amended and extended Act for the Prevention of Cruelty to Children, which came into operation on the 21st of last month, has materially increased the efficiency of its predecessor. Among its provisions we note with satisfaction that the term "neglect," as descriptive of a criminal offence, includes not only such aggravated unconcern as virtually constitutes abandonment, but such particular offences as the refusal to summon medical assistance in illness. In THE LANCET of Aug. 18th we advocated this course as most applicable to the mistaken action, or rather inaction, of the Peculiar People. The period of immunity from regular labour allowed to children has been extended by one year, and acrobatic training establishments have been subjected to a needed system of inspection. The insurance of infant life has not been forgotten, for neglect which terminates fatally in the case of any insured child will be punishable by five years' penal servitude instead of two years' imprisonment as heretofore. An important precedent has been established to meet the case of habitual drunkards, who will be liable to detention in a retreat for inebriates if cruelty be proved to result from their drunkenness. We should greatly desire to see the principle of compulsory seclusion allowed in this clause applied to all similar cases in which the claim of suffering childhood has not to be considered. Meanwhile we congratulate the framers of the new Act on the insight and practical sense exhibited in this recent effort of legislative skill. The necessity for their beneficent exertions will be better estimated when we state that the number of cases of cruelty examined and authenticated during last month was 1509. For our knowledge of these we are indebted to the National Society for the Prevention of Cruelty to Children. This institution, like every other possessed of vigorous life, is in daily need of pecuniary sustenance. Its ordinary necessity is increased by an outstanding deficit, which, though undergoing rapid absorption, still requires, to ensure its disappearance, a liberal and merited response on the part of the numerous well-wishers of the Society.

## NOXIOUS FUMES IN CHEMICAL WORKS.

THE dangers attending the manufacture of chemicals have been brought into especial prominence during the last year or so, and, with the view of improving the conditions and surroundings under which the operatives work, legislation has been directed more particularly to those industries which are more widely known as "hazardous"—as, for instance, white-lead making and the manufacture of pigment &c. from arsenical ore. With due care, however, there is generally supposed to be little risk attending the production

of sulphuric acid; and yet, according to a case recently reported in the daily papers, a man engaged upon the Gay-Lussac tower, which in sulphuric acid works is employed to recover the nitrous vapours issuing from the vitriol chambers, was overpowered by nitrous fumes. According to the evidence given in the court, in which the manufacturers were summoned for failing to observe a special rule made for the regulation of chemical factories, the man was lowered into the tower for the purpose of repacking it (presumably with coke), but shortly afterwards he was overcome by the gas, and in response to his calls was taken out, but not soon enough, unfortunately, to be rescued from the deadly effect of the fumes. In the defence it was urged that the occurrence was a pure accident, while several expert witnesses concurred that in such a case no known form of respirator could avail anything. That nitrous fumes are very dangerous, and also that they cannot be warded off by adopting respirators, is well known, and by none better than the manufacturers in whose works such emanations occur, whose duty it should be to warn workmen against going near a place where an escape of nitrous fumes (chiefly probably $NO_2$) may happen. On no account, obviously, should the Gay-Lussac tower, which is generally saturated with the fumes, be repaired until it has been thoroughly well ventilated. Manufacturers should be compelled to give notice, we think, to the proper authorities when the towers are about to be repacked, so that the regulations in regard to ventilation may first be properly carried out.

## THE EFFECTS OF LIGHTNING.

THE letter of Mr. Carmalt Jones, which is printed in another column, though it does not seem to present any absolutely new feature in connexion with occurrences of the kind in question, is interesting in more ways than one—chiefly, perhaps, from the point of view of the rabbit. The "skin" sent to us shows a space of about six inches in length and about one inch in width denuded of fur. The bare skin is slightly desiccated, but not discoloured, vesicated, or charred. It is presumed that there was no further sign of injury or disorganisation of tissue in the rest of the body of the animal. This is consistent with the known fact that electric discharges, even when fatal, do not necessarily kill by producing any gross change in the tissue and organs, or even, so far as is known, by altering the histological elements, of a structure. The damage to the tree is simply the disruptive effect of the lightning flash striking an imperfect conductor. The men "felt more or less shaken." In other words, they experienced a shock due to induction. Owing to the presence of a "charged conductor" in their neighbourhood a charge of opposite sign had been induced in them. When the flash occurred—i.e., when the conductor was discharged—the induced charge in their bodies was also suddenly discharged. This is known as "return shock." The distance recorded in this case is not too great for such effects to be experienced. It was very different in the recent balloon accident at Aldershot, where four men holding a captive balloon by a wire rope were "struck" and seriously injured. In this case the unfortunate men had by means of their balloon simply angled for the lightning, and, having captured it, offered it a ready route to earth through their own bodies. It is a source of astonishment as well as of regret that, in the light of historic experiments with lightning and kites, such an accident as this should not have been foreseen and provided against.

## FINE FOR NON-NOTIFICATION OF SMALL-POX.

THE *Birmingham Daily Post* of Aug. 13th contains the report of a case in which a tradesman was summoned for failing to give notice to the authorities that his wife had small-pox. He did not become aware of the fact till Aug. 3rd. He first called in a herbalist. On Aug. 7th he called in Dr. Pogson, who immediately notified. The Bench said he should at once have called in a regular practitioner and when he became aware of the disease ought, irrespectively of personal business considerations, to have notified the case to the authorities. The Birmingham health authorities have done well to prosecute in this case, and to teach the public that the friends of the patient, equally with the medical man, are responsible for notification.

IN our tabulated statement of fees chargeable to students seeking the diplomas under the Conjoint Scheme between the Royal College of Surgeons, Ireland, and Apothecaries' Hall (*vide* the "Students' Number" of THE LANCET, Sept. 1st, 1894, page 505) it should have been stated that the total fees for the diplomas of L.R.C.S.I. and L.A.H. are at present £26 5*s*.—i.e., £5 5*s*. for each of the first three examinations and £10 10*s*. for the final.

WE learn from Padua that his Excellency Dr. Baccelli, who has for some time been suffering from rheumatic gout, will shortly visit the neighbouring Stabilimento Terminale of Albano, there to undergo the "mud" treatment for which the place is famous.

A DEATH under chloroform has occurred at Kidderminster; we hope to publish an account of the details of the case in our next issue.

# CHOLERA.

CHOLERA continues to maintain a foothold in the same countries and places that it did last week, but has not manifested any decided signs of epidemic extension beyond those places already infected. It is in Russia, Galicia, and Bukovina that the disease chiefly shows itself in any epidemic intensity; in Germany, Holland, and at Antwerp its manifestations have been much less extensive and severe. It is noteworthy that a case of the disease is stated to have been recently introduced into the Southern States of America in the person of a Bavarian emigrant, who embarked with other emigrants at Bremen, landed at New York from the Transatlantic liner *Elbe*, and was removed from the train at Cumberland in Maryland, where he died collapsed in a few hours. No other attacks have been reported, and there is still some doubt as to the case having been one of true Asiatic cholera.

The latest official reports from St. Petersburg show that cholera still rages in many parts of Russia. The weekly official bulletin from the 1st to the 7th inst. returned 146 cases and 101 deaths in that capital during that period. From Aug. 26th to Sept. 1st there were 607 cases and 359 deaths in the government of Petrikow, 289 cases and 114 deaths in the government of St. Petersburg, 229 cases and 109 deaths in that of Novgorod, and 1126 cases and 527 deaths in other parts of the country. In the period between Aug. 19th and Sept. 1st 1383 cases and 640 deaths occurred in the government of Warsaw, and from Aug. 19th to Aug. 25th 1017 cases and 571 deaths in the government of Kielce and 718 cases and 360 deaths in the government of Radom. According to one of Reuter's recent telegrams the epidemic in Russian Poland is described as very severe, the weekly number of fresh cases averaging 5000, about half of which prove fatal.

In Germany cholera has continued to manifest its presence, but to a comparatively slight extent, in East Prussia, in the Vistula district, and in the districts of Netze and Warthe, Oder, Upper Silesia, Hessen, Nassau, and the Rhine province. There was a sharp but circumscribed outbreak at Bürgeln, the exact nature of which does not seem to have been determined. Professor Fränckel appears to entertain the opinion that the disease—which was entirely confined to the small village of that name, and no history of the introduction of cholera into it could be

traced from any infected place — had been generated locally from insanitary conditions. Although the water used by the affected families was impure, no comma bacilli were detected in it on bacteriological examination. At the village of Grieslienen in East Prussia 15 cases have also been officially reported, 4 of which have already proved fatal. These isolated outbreaks in small communities during this epidemic have been apparently as frequent abroad as they were in this country. The authorities of the district of Oppeln in Silesia have prohibited the holding of pilgrimages, and persons coming from Russia and Austria are subjected to rigorous examination.

From Vienna we learn that cholera still prevails with severity in Galicia and Bukovina, but the numbers show some decrease, attributable, it is thought, to the decreasing heat in the affected provinces. According to a recent survey of the progress of the disease by the Central Sanitary Council it appears that the total number of cases which have occurred in Galicia amount to 5367 and in Bukovina to 591. The deaths in both provinces have been over 50 per cent. of those attacked. The latest cholera bulletin returns 533 fresh cases and 304 deaths during three days for these two provinces. The most important news, probably, is the extension of the disease to Lemberg, where there is an exhibition, at which the Emperor of Austria was present. Eight cases and four deaths are reported as having occurred there in the course of twenty-four hours. The projected military manœuvres in East Galicia have been abandoned in consequence of the prevalence of the epidemic.

Cholera—in the sporadic form—continues to prevail at many places in Holland—as, for example, at Amsterdam, Maestricht, Laandam, Kralingen, Alblasserdam, Dordrecht, and at Nieuwerkerk and Kapelle on the Yssel, and other localities and villages.

A telegram from Ostend contradicts the report that a case had occurred there.

There is no fresh news as to the occurrence of cholera at Antwerp. It will be remembered that there have been three intimations to the Local Government Board of this country in regard to the occurrence of cholera on shipboard in connexion with this port, the latest having come from Cardiff. The schooner *Volunteer* has since arrived in the Lough with the history that the vessel left Antwerp on the 27th ult., that on the following day a sailor died from cholera, and that another seaman was affected with choleraic diarrhœa, but recovered.

So far for the medical history of cholera in Europe. Turning to India, where cholera seems to be very prevalent at present, we have to chronicle an outbreak of terrible severity at Lucknow in the East Lancashire Regiment. According to the *Pioneer Mail*, the regiment was only some 600 strong when the disease suddenly broke out. In the course of a few days there were 140 seizures and 90 deaths, an occurrence which recalls to mind what frequently used to occur fifty or sixty years ago. Of late years, however, European regiments cantoned in India have been undergoing a marked improvement as regards their liability to cholera. The disease in the Lucknow garrison was mainly confined to one regiment, which was, as soon as practicable, marched out of its cantonments, with the result that the attacks began to decrease almost immediately after its removal. These sudden, virulent, and very circumscribed outbreaks of cholera in India, now happily much rarer than formerly, together with the occurrence of numerous isolated cases in different parts of the country, are extremely difficult of explanation, but no pains should be spared to search out the clue to their occurrence. According to a telegram in the *Times*, some of the men of the regiment who had undergone M. Haffkine's inoculation treatment were attacked, and the disease proved to be about as fatal among them as among those who had not undergone that treatment.

Again, in the case of the largest native hospital at Bombay a recent outbreak of cholera has excited great attention. The *Times of India* of the 21st ult. contained a report of the proceedings of a meeting of the Bombay Medical Union in regard to this outbreak, which occurred in the large institution known as the Sir Jamsetjee Jejeebhoy Hospital; but as the members of the union had not succeeded in obtaining any exact or official history of the details from the hospital or Government authorities it is evident that, in the absence of precise information, any attempt to trace out the causes of the outbreak would be futile at present—indeed, we have failed to find in the report of the proceedings any record of the exact dates of the outbreak, or even of the numbers attacked. Still there are a few facts recorded which are of much interest at the present time. The hospital has hitherto been free from any outbreaks of cholera, even when the disease has been present in a severely epidemic form in the city, when the hospital itself was in a far less sanitary condition than it is at the present time, and when it was the custom to admit cholera patients into it for treatment. The disease was not prevalent in Bombay at the time of the outbreak in question, which was confined to this hospital and did not affect any buildings or other hospitals in its close vicinity; and notwithstanding the exodus that took place, by which in a week's time only some twenty patients remained in the wards out of 400 whom the building contained, the disease was not communicated to a single individual in the various crowded localities to which the patients repaired after leaving the infected building. The water-supply was common to the affected and unaffected buildings and is perfectly good; indeed, the relative freedom of the city of Bombay from cholera of late years has been attributed, and no doubt rightly, to the purity of its water-supply. Of course there are other directions, as in regard to food-supply and other matters, in which strict investigation is called for; but, in the absence of any exact information, it is hopeless to attempt any explanation of the occurrence in question. We must await the publication of a report on the subject until it has been exhaustively and scientifically threshed out; meanwhile the hospital building is being thoroughly cleansed and disinfected.

## ASPECTS OF PUBLIC HEALTH IN THE SCANDINAVIAN CAPITALS.

(BY ONE OF OUR SPECIAL COMMISSIONERS.)

### IV.—MILK CONTROL IN COPENHAGEN AND STOCKHOLM.[1]

MANY medical officers of health have doubtless during the past six months been distributing in their districts circulars as to the best means of preventing infantile diarrhœa, laying special stress on the boiling of milk, so that it may be of interest to describe what is being done in Copenhagen and Stockholm in the matter of providing a pure milk-supply; for, unfortunately, it cannot be denied that the boiling of milk does not improve its flavour, and consequently the step is more often honoured in the breach than in the observance. Since outbreaks of scarlet fever, diphtheria, and enteric fever have in numerous instances been traced to infected milk something has been done by legislation to safeguard milk from contamination, notably by the Dairies, Cowsheds, and Milkshops Order of 1885, with its section prohibiting a person suffering from any dangerous infectious disease, or who has been recently in contact with a person so suffering, to participate in the production, distribution, or storage of milk. But still there is every reason to doubt whether in country districts, beyond the mere fact of being registered, the cowkeeper is much affected by the Order or at all realises its importance. An additional source of danger must be attributed to milk, since it has become agreed that human and bovine tuberculosis are the same disease, and few educated persons would not now be prepared to admit the extreme probability of tubercle being caused in the human subject by the consumption of cow's milk containing tubercle bacilli. Certainly numerous experiments have absolutely proved that calves may be infected when fed on such milk, and the large number of cases of tabes mesenterica occurring in children is not without considerable significance in this respect. One is therefore justified in saying that the milk from cows with tubercle of the udder is positively dangerous, and the supply of such milk should be regarded as little short of criminal. Fortunately, however, this condition is not very commonly met with, as it is usually secondary to tuberculous deposits elsewhere and only appears late in the disease. Professor Bang of Copenhagen, who has made the subject of bovine tuberculosis peculiarly his own, states that the udder was affected in but 1 per cent. of the cattle slaughtered in the

[1] Parts I., II., and III. appeared in THE LANCET of July 14th and 21st and Aug. 18th respectively.

abattoir there. The question then is, How far can the milk of tuberculous cows be regarded as safe when the above serious condition is not found? Professor Bang maintains that it must be considered suspicious, although in the great majority of cases it is doubtless consumed with impunity. This opinion he bases on his own experiments, and those of many other investigators, which were made by introducing milk from such animals into the peritoneal cavity of others prone to tubercle. Thus, of forty guinea-pigs inoculated with the milk from twenty-one tuberculous cows four became affected. Experiments in regard to this seem to show that it is a question of degree—the more tuberculous the cattle the more virulent its properties for infection, and *vice versâ*. It becomes therefore a matter of serious importance to try to exclude as far as possible the milk from animals affected with tubercle, and this is what is aimed at, amongst other things, both in Copenhagen and Stockholm. In both cases the problem of a pure milk-supply resolves itself into a question of minute attention to detail; but the details are so important and carefully worked out that they deserve to be widely known. It should at the outset be stated that the description which follows does not by any means apply to the whole of the milk-supply in the two towns, but only to that of two large companies, the one in Copenhagen, the other in Stockholm. As there are certain marked differences in the methods adopted in each case it may be well to deal with them separately.

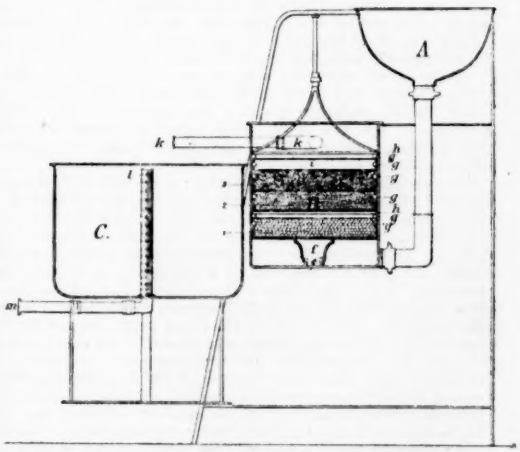
### COPENHAGEN.

The guarantees that the Copenhagen Milk-supply Association give of the purity of their milk are: (1) veterinary control of all the cows on the farms and exclusion of the milk from suspected animals; (2) cooling of the milk by ice to 41° F. or lower at the farms and at the company's depôt; (3) filtration of the whole of the milk through fine gravel; and (4) absolute cleanliness of all the bottles and cans used, and the fact that they are delivered under the security of the company's seal.

*Veterinary control at the farms.*—The company has in its service seven veterinary surgeons, one of whom devotes the whole of his time to the work of visiting the farms in rotation. Permission was kindly given me to accompany him and see the *modus operandi*. One of the conditions is that all cows in summer must be fed in the open fields on grass and clover. Stall feeding, except in winter, is strictly prohibited. In Denmark the custom is universal to tether the cattle out at short distances from one another, so that every inch of ground is covered, and the farmer can estimate almost exactly how much grass has been eaten. It can be readily understood that where 200 cattle are together it would be well nigh impossible to examine them all minutely on one day; consequently, the veterinary surgeon examines each cow at every visit only as regards the condition of the udder, auscultating one-half of the animals at his first visit and the other half at the second. Each farm is visited twice a month. The points noted as to the udder are: its consistency, whether there are any signs of inflammation or induration about it, and whether nodules exist in its substance. The glands in its neighbourhood are also felt. Attention is then directed to the skin, which should in a healthy animal be soft and freely movable. The glands, especially those in the axilla and inguinal region, are carefully felt, as they often give valuable information as to the existence of tubercle. The submaxillary glands, the superficial glands of the neck, and those at the angle of the jaw are examined, but their enlargement is an accompaniment of so many morbid processes that not so much reliance can be placed on their condition as a means of detecting tubercle. Last year among the 5000 or 6000 cows supplying milk to the company 122 were found to be tuberculous, but only in two of these was the udder affected. If the veterinary surgeon detects a tuberculous cow it must be at once separated from the others and got rid of as soon as possible. Or, again, if he thinks that the health of a cow is so bad that the milk may be prejudicially affected thereby, he may order the withdrawal of the milk for a certain time. The farmer is bound to report any case of illness occurring between the veterinary surgeon's visits, and to withhold the milk until he arrives. Infectious disease occurring amongst the employés must at once be reported to the company and the milk kept back. Other conditions which are set down in the agreement between the farmer and the company have reference to the storage of milk and the feeding of the animals. The greatest cleanliness must be observed in the milking, and, as has been stated, the milk must at once be cooled to 41° F. by ice, having been first strained through a sieve covered by a clean woollen cloth. As to the food in winter, this consists chiefly of rape-seed oilcake, hay and straw, and brewer's grain; anything likely to give the milk an unpleasant taste, such as turnips &c., is absolutely forbidden. It might very naturally be asked, How have the farmers been brought to acquiesce in these strict conditions, entailing both extra trouble and expense, imposed on them by the company? The answer is simply that it has been done by an appeal to their pockets, the company agreeing to pay them a better price than they could get from any other buyer. Even the milk that is withheld owing to the temporary sickness of an animal or employé is paid for at the full price just as though it were used.

*Treatment of the milk at the depôt.*—The company's premises are close to the railway, so that very little time is lost in transit. When the whole of the milk for the day has arrived the milk from every can is tasted and a sample from every farm is taken for analysis. The milk is then filtered, the arrangements for which are, I think, unique. A reference to the diagram, which I am permitted to reproduce here by the kindness of the publishers of an article entitled "Milk-supply in Copenhagen" by Mr. A. Stewart MacGregor, British Vice-Consul, will enable the principle to be readily grasped. The filtering material is fine gravel placed in perforated tin trays. The gravel in the lowest tray is about the size of a split pea, and in the highest that of a pin's head. The milk is poured in at A, and passes by a process of upward filtration into the receiver, C. The amount and nature of the filth that is kept back by the gravel have to be seen to be believed, and this, too, notwithstanding the precautions taken in milking. The perforated tube that is seen in the receiver, C, and is to be found also in the cans, allows of the milk being drawn from all depths, so that as nearly as possible a uniform quality is maintained from first to last. From the tube *m* the cans and litre bottles are filled. They are then placed in trays containing ice until required for distribution. About 3000 litre bottles are filled every evening and the milk in them is guaranteed to keep fresh for twenty-four hours. Every can and bottle is most scrupulously cleaned before being used. For cleansing the cans a little soda is introduced and a strong jet of steam is made to play upon the interior. Nor is the size of the cans so great that the bottom cannot be easily reached by the hand and well scrubbed. The bottles are cleansed by a soda

FILTERING APPARATUS.




*A*, Receiving tank. *B*, Filter. *C*, Storage or mixing tank. *c*, Indiarubber ring to preserve enamel against— *f*, Iron foot-piece or base. 1, 2, 3, Perforated metal trays to hold the gravel, of which No. 1 is the coarsest. *g*, *g*, *g*, Indiarubber rings to protect enamel. *h*, *h*, *h*, Galvanised rings. *i*, Five ply of filter-cloth of close texture, surmounted by one ply of very fine texture. *k*, *k*, Pipes which lead off milk, as it rises in filter tank, into storage tank. *l*, Perforated tube so constructed as to draw milk from every part of the tank and so equalise the quality. *m*, Pipe leading through partition to bottling room.

solution and the insertion of a brush turned by machinery, being washed out afterwards with sterilised water. When empty all bottles and cans are placed on racks bottom upwards, so that air can not only circulate round them but under them as well.

In order not to complicate the description reference has only been made to milk, but the company, as might be expected, does a large business in cream also, which is treated in just the same way, even to the filtering. The cream, however, is never got by the use of a "separator," as it is rightly contended that ordinary skimmed milk, containing as it does about 1 per cent. of fat and all the albuminoids and lactose, is still a most valuable food. Nor has reference been made to a great feature of the company's work—namely, the production of what is called "children's milk." Only the milk from the best and healthiest cows is used for this, and special regulations exist as to their food in winter. A great impetus, too, has recently been given to the preparation of "Pasteurised milk." Bottles of the milk to be sterilised are placed in frames in a trough of water. A coil of steam pipes heats this to a temperature of 75°C., when a contact thermometer rings a bell, which gives the signal for shutting off the steam. When the water has cooled down to 60° C. the bottles of milk are taken out and placed in ice. It is guaranteed to keep for forty-eight hours. For the sake of infants that must be bottle-fed sterilised milk variously diluted is prepared. A Chamberland filter supplies the water, and the bottles, with the degrees of dilution labeled on them, are sold in cruets containing just such a number as is sufficient for one day. The feeding nipple fits on to the neck of the bottle, so that there is no length of indiarubber tubing to become foul.

Analyses of the milk are made not only at the company's depôt but also under the direction of Professor Bohr, who publishes monthly the results of the daily analyses. All the milk that remains unsold is used for making butter. The sale takes place in general directly from the company's carts in the streets. The price paid for the milk is as follows: children's milk, 1*s.* per gallon; sweet milk, 10*d.* per gallon; half skimmed milk, 5*d.* per gallon; No. 1 cream, 5*s.* per gallon; No. 2 cream, 3*s.* per gallon. What has been described sounds, perhaps, rather utopian, but nevertheless the company is on a firm financial basis and pays its dividend of 5 per cent. on the capital invested. More than this it is not allowed to pay, as when the company was started in 1878 express provision was made that anything over and above the 5 per cent. interest should be devoted to lowering the price of the milk and to improving the general arrangements. Its origin and success are almost entirely due to Mr. Busck, founder of the Scandinavian Preserved Butter Company, who has brought the various points in general management and mechanical contrivance to the highest perfection. It is interesting to know that he would not undertake the task without first receiving an assurance of support on the part of the medical profession generally.

### STOCKHOLM.

The company in Stockholm undertakes the sale of two kinds of milk—namely, controlled and uncontrolled. The conditions under which the former is produced, although its amount is much smaller than the latter, have naturally the greater interest. What is meant by "controlled milk" is that coming from the company's own cows under the most careful supervision possible. On their large estate some thirty miles from the city the company has built two large cow-sheds. The one of these at Hjortsberga has 150 and the other at Mölnbo 180 cows in it. The walls, floor, and feeding troughs are cemented; they are well lighted, and have special arrangements for ventilation. The great difference between the Copenhagen and Stockholm arrangements is that in the latter—and almost invariably in Sweden—the cows are kept in sheds both in summer and in winter, only occasionally getting out for exercise, whereas in the former they must be out in the fields throughout the summer. A staff of men is constantly engaged in cleaning the animals and removing the refuse. There is no smell in the buildings, as everything is quickly absorbed by the dried peat which partially fills the channel into which the excreta pass. Before milking is begun the floor is swept perfectly clean, and the milkmaids must wash their hands, wear special aprons, and clean the udders carefully. All the cans are washed with boiling water, and the milk is strained through muslin and very fine copper-wire gauze before being removed to the cooling room, where it is kept in ice till it is required to be sent away. The most important point in the sanitary control is the fact that the company employs a qualified veterinary surgeon, who lives on the estate and regularly examines the animals, paying especial attention to the detection of tubercle. In addition, the city veterinary surgeon periodically visits and inspects the animals. Any animal found to be affected with tubercle must be got rid of. Nor does the company, further, keep any cows more than a few years. After they have calved two or three times they are sold, so that only those at their best milking periods are in the stalls. The milk from cows that have newly calved must be withheld seven days. Great stress is laid on the importance of keeping the standard of "children's milk" as high as possible, all the finest and healthiest cows being set aside to furnish it. The daily average in 1892 of the analysis was:—

| | Sp. gr. | Fat. | Total solids. |
|---|---|---|---|
| Children's milk ... ... | 1032 ..... | 4·01 % ..... | 13·14 % |
| Ordinary milk ... ... | 1032 ..... | 3·83 % ..... | 12·91 % |

The charge for the controlled milk is 18 öre per litre (about 2*d.*) and for uncontrolled 15 öre, a difference which, considering the infinitely superior guarantee as to purity given by the former, is not great. On the estate there is a small hospital for isolating any case of infectious disease that may occur amongst the employés on the farm.

### TUBERCULIN AS A MEANS OF DIAGNOSING BOVINE TUBERCLE.

Professor Bang's researches into bovine tubercle have led him to believe that its spread is very much dependent on the size of the herds. On small farms, where there are only a few cattle, it is very often quite absent, becoming more frequently found the larger the herds. He believes that the bacillus finds an entrance into the system with the food, the retro-pharyngeal glands and those of the alimentary canal becoming first affected. Calves born of tuberculous parents, if isolated from them and fed entirely on boiled milk, will remain free from tubercle. He has carried out experiments on a large estate where most of the animals were tuberculous, to begin with, but by this isolation of the calves he has improved the stock in a remarkable manner. The method he adopts for diagnosing tubercle in cattle is the injection *sub cutem* of 0·4 gramme of tuberculin in full-grown animals and of 0·1 gramme in calves. A reaction follows as in man, and in at least 90 per cent. he believes the reaction points to tubercle. So important does the Danish Government consider these experiments to be, as opening up the possibility of eliminating tuberculosis from cattle, that it has given Professor Bang nearly £3000 a year for five years for their continuance. The farmers can have their cattle tested, they can have the services of a veterinary surgeon gratuitously, provided only they will agree to adapt their sheds so that the healthy animals and newly born calves can be isolated from those that are suspected.

In conclusion, I should like to express my thanks to the veterinary surgeons both in Stockholm and Copenhagen for allowing me to visit the farms with them, and to Mr. Busck for the trouble he took to explain the various points of detail at the company's depôt.

## VITAL STATISTICS.

### HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 5824 births and 3060 deaths were registered during the week ending Sept. 8th. The annual rate of mortality in these towns, which had declined from 17·6 to 15·2 per 1000 in the preceding three weeks, rose to 15·3 per 1000 last week. In London the rate was 14·1 per 1000, while it averaged 16·1 in the thirty-two provincial towns. The lowest rates in these towns were 10·1 in Huddersfield, 10·5 in West Ham, 11·1 in Derby, 11·4 in Brighton, and 11·8 in Halifax; the highest rates were 19·6 in Cardiff, 19·7 in Preston, 19·9 in Sunderland, 22·1 in Wolverhampton, 23·4 in Bolton, and 24·0 in Liverpool. The 3060 deaths included 486 which were referred to the principal zymotic diseases, against 650 and 409 in the preceding two weeks; of these, 254 resulted from diarrhœa, 65 from diphtheria, 47 from "fever" (principally enteric), 45 from whooping-cough, 36 from measles, 33 from scarlet fever, and 6 from small-pox.

Among the towns these diseases caused the lowest rates in Bristol, Bradford, and Blackburn; and the highest rates in Portsmouth, Preston, and Wolverhampton. The greatest mortality from measles occurred in Newcastle; from scarlet fever in Wolverhampton; from whooping-cough in Huddersfield and Plymouth; from "fever" in Halifax, Sunderland, and Birkenhead; and from diarrhœa in Portsmouth, Gateshead, Preston, and Wolverhampton. The 65 deaths from diphtheria included 39 in London, 4 in West Ham, and 3 each in Portsmouth, Liverpool, Oldham, and Sheffield. Six fatal cases of small-pox were registered in London, but not one in any other of the thirty-three large towns. There were 129 small-pox patients under treatment in the Metropolitan Asylum Hospitals and in the Highgate Small-pox Hospital on Saturday last, the 8th inst., against 179, 158, and 163 at the end of the preceding three weeks; 13 new cases were admitted during the week, against 37, 34, and 40 in the preceding three weeks. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2026, against 2133, 2117, and 2112 on the preceding three Saturdays; 212 new cases were admitted during the week, against 208 and 232 in the preceding two weeks. The deaths referred to diseases of the respiratory organs in London, which had been 148 and 123 in the preceding two weeks, rose to 134 last week, but were 25 below the corrected average. The causes of 46, or 1·5 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bradford, Newcastle, Portsmouth, Oldham, Sunderland, and in twelve other smaller towns; the largest proportions of uncertified deaths were registered in Leicester, Birmingham, Liverpool, and Blackburn.

### HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 14·9 and 15·6 per 1000 in the preceding two weeks, was again 15·6 during the week ending Sept. 8th, and was 0·3 per 1000 above the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 8·7 in Leith and 10·5 in Dundee, to 20·7 in Perth, and 25·0 in Greenock. The 445 deaths in these towns included 22 which were referred to diarrhœa, 11 to diphtheria, 11 to whooping-cough, 9 to "fever," 7 to scarlet fever, 4 to measles, and not one to small-pox. In all, 64 deaths resulted from these principal zymotic diseases, against 66 and 50 in the preceding two weeks. These 64 deaths were equal to an annual rate of 2·2 per 1000, which was 0·2 below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of diarrhœa, which had been 20, 31, and 17 in the preceding three weeks, rose again to 22 last week, and included 9 in Glasgow and 6 in Edinburgh. The deaths from diphtheria, which had been 7, 14, and 11 in the preceding three weeks, were again 11 last week, of which 4 occurred in Glasgow, 3 in Edinburgh, and 2 in Aberdeen. The deaths from whooping-cough, which were 7 in each of the preceding two weeks, rose to 11 last week, and included 5 in Glasgow. The fatal cases of "fever," which had increased from 3 to 8 in the preceding three weeks, further rose to 9 last week, and included 5 in Glasgow. The deaths from scarlet fever, which had fallen from 6 to 1 in the preceding two weeks, rose again to 7 last week, all of which occurred in Glasgow. The 4 deaths from measles showed a decrease of 2 from the number in the preceding week. The deaths referred to diseases of the respiratory organs in these towns, which had been 51 and 53 in the preceding two weeks, were 52 last week, and were 8 below the number in the corresponding week of last year. The causes of 39, or nearly 9 per cent., of the deaths in these eight towns last week were not certified.

### HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 28·0 and 19·5 per 1000 in the preceding two weeks, rose again to 28·1 during the week ending Sept. 8th. During the past ten weeks of the current quarter the death-rate in the city has averaged 20·7 per 1000, against 16·2 in London and 14·9 in Edinburgh. The 175 deaths in Dublin during the week under notice showed an increase of 44 over the number in the previous week, and included 19 which were referred to the principal zymotic diseases, against 27 and 17 in the preceding two weeks; of these, 8 resulted from diarrhœa, 5 from "fever," 4 from whooping-cough, 1 from small-pox, 1 from scarlet fever, and not one from measles or diphtheria. These 19 deaths were equal to an annual rate of 2·8 per 1000, the zymotic death-rate during the same period being 2·1 in London and 2·3 in Edinburgh. The fatal cases of diarrhœa, which had been 9 and 10 in the preceding two weeks, fell again to 8 last week. The deaths from "fever," which had been 4 in each of the preceding two weeks, rose to 5 last week. The fatal cases of whooping-cough, which had been 4 and 2 in the preceding two weeks, rose again to 4 last week. Scarlet fever, which caused 4 and 1 deaths in the preceding two weeks, caused again only 1 death last week. The 175 deaths in Dublin last week included 38 of infants under one year of age and 42 of persons aged upwards of sixty years; the deaths, both of infants and of elderly persons, showed a marked increase last week. Ten inquest cases and 6 deaths from violence were registered; and 69, or more than one-third, of the deaths occurred in public institutions. The causes of 5, or nearly 3 per cent., of the deaths in the city last week were not certified.

### VITAL STATISTICS OF LONDON DURING AUGUST, 1894.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality during August in each of the forty-three sanitary areas of London. With regard to the notified cases of infectious disease in the metropolis during last month, it appears that the number of persons reported to be suffering from one or other of the nine diseases in the accompanying table was equal to 8·5 per 1000 of the population, estimated at 4,349,166 persons in the middle of this year. In the preceding three months the rates had been 9·6, 9·1, and 9·4 per 1000. Among the various sanitary areas the rates were considerably below the average in Kensington, St. George Hanover-square, St. James Westminster, Stoke Newington, St. Giles, Strand, and Holborn; while they showed the largest excess in Marylebone, St. Pancras, Clerkenwell, St. George-in-the-East, Poplar, Newington, Rotherhithe, and Plumstead. The prevalence of small-pox in London showed a slight further increase during August, 204 cases being notified during the month, including 132 in Marylebone, 11 in St. Pancras, 8 in Hampstead, 7 in Islington, and 6 in Paddington sanitary areas. The Metropolitan Asylum Hospitals contained 151 small-pox patients at the end of August, against 232, 123, and 187 at the end of the preceding three months; the weekly admissions averaged 34, against 60, 28, and 47 in the preceding three months. The prevalence of scarlet fever in London showed a considerable decrease from that recorded in the previous month; this disease was proportionally most prevalent in St. Pancras, Islington, Limehouse, Newington, Rotherhithe, Battersea, Greenwich, and Plumstead sanitary areas. The Metropolitan Asylum Hospitals contained 2082 scarlet fever patients at the end of August, against 2216, 2042, and 2153 at the end of the preceding three months; the weekly admissions averaged 214, against 273, 235, and 256 in the preceding three months. The prevalence of diphtheria showed a slight increase upon that recorded in the previous month; among the various sanitary areas this disease showed the highest proportional prevalence in Clerkenwell, Bethnal Green, Whitechapel, St. George-in-the-East, Bermondsey, and Rotherhithe. There were 450 cases of diphtheria under treatment in the Metropolitan Asylum Hospitals at the end of August, against 330, 351, and 435 at the end of the preceding three months; the weekly admissions averaged 80, against 79 and 88 in the preceding two months. The prevalence of enteric fever showed a slight increase last month; among the various sanitary areas this disease was proportionally most prevalent in Clerkenwell, City of London, Poplar, and St. Saviour Southwark. Erysipelas showed the highest proportional prevalence in Marylebone, City of London, St. George-in-the-East, Rotherhithe, and Battersea sanitary areas. Four cases of puerperal fever were notified during August in Lambeth sanitary area.

The mortality statistics in the accompanying table relate to the deaths of persons actually belonging to the various sanitary areas, the deaths occurring in the institutions of London having been distributed among the various sanitary areas in which the patients had previously resided. During the five weeks ending Saturday, Sept. 1st,

## MONTHLY ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON—AUGUST, 1894.

(*Specially compiled for* THE LANCET.)

| Sanitary areas. | Estimated population in the middle of 1894. | Notified Cases of Infectious Disease. | | | | | | | | | | | Deaths from Principal Infectious Diseases. | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Small-pox. | Scarlet fever. | Diphtheria.* | Typhus fever. | Enteric fever. | Other continued fevers. | Puerperal fever. | Erysipelas. | Cholera. | Total. | Annual rate per 1000 persons living. | Small-pox. | Measles. | Scarlet fever. | Diphtheria.† | Whooping-cough. | Typhus fever. | Enteric fever. | Other continued fevers. | Diarrhœa. | Total. | Annual rate per 1000 persons living. | Deaths from all causes. | Death-rate per 1000 living. | Deaths of infants under one year to 1000 births. |
| LONDON ... ... ... ... ... ... ... | 4,349,166 | 204 | 1546 | 955 | — | 248 | 16 | 21 | 548 | 4 | 3542 | 8·5 | 23 | 162 | 81 | 251 | 139 | — | 39 | — | 597 | 1297 | 3·1 | 6383 | 16·0 | 176 |
| *West Districts.* | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Paddington ... ... ... ... ... ... | 121,583 | 6 | 27 | 33 | — | 3 | — | — | 5 | — | 74 | 6·3 | 1 | 12 | 1 | 13 | 2 | — | 1 | — | 23 | 53 | 4·5 | 187 | 16·0 | 260 |
| Kensington ... ... ... ... ... ... | 167,350 | 1 | 28 | 12 | — | 7 | — | — | 19 | — | 67 | 4·2 | — | 6 | — | 6 | 3 | — | — | — | 20 | 35 | 2·2 | 212 | 13·2 | 209 |
| Hammersmith ... ... ... ... ... | 105,696 | 1 | 43 | 14 | — | 2 | — | 1 | 4 | — | 65 | 6·4 | — | 1 | 1 | 4 | 2 | — | 1 | — | 16 | 25 | 2·5 | 148 | 14·6 | 196 |
| Fulham ... ... ... ... ... ... ... | 110,993 | 4 | 30 | 22 | — | 5 | — | 2 | 5 | — | 68 | 6·4 | — | 2 | 2 | 6 | 8 | — | 2 | — | 24 | 44 | 4·1 | 165 | 15·5 | 174 |
| Chelsea ... ... ... ... ... ... ... | 99,052 | — | 23 | 20 | — | 2 | — | — | 14 | — | 59 | 6·2 | — | 4 | — | 2 | 2 | — | 1 | — | 5 | 14 | 1·5 | 132 | 13·9 | 155 |
| St. George Hanover-square ... ... | 75,033 | 1 | 16 | 8 | — | 2 | 2 | 1 | 4 | — | 34 | 4·7 | — | — | 1 | 1 | 2 | — | 2 | — | 3 | 9 | 1·3 | 94 | 13·1 | 175 |
| Westminster ... ... ... ... ... ... | 54,414 | — | 14 | 12 | — | 2 | 1 | — | 5 | — | 34 | 6·5 | — | 1 | — | 4 | 3 | — | — | — | 5 | 13 | 2·5 | 77 | 14·8 | 120 |
| St. James Westminster ... ... ... | 23,571 | 1 | 5 | 1 | — | — | — | — | 1 | — | 8 | 3·5 | 1 | — | — | 1 | — | — | — | — | 2 | 4 | 1·8 | 31 | 13·7 | 157 |
| *North Districts.* | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Marylebone ... ... ... ... ... ... | 138,554 | 132 | 33 | 14 | — | 15 | 3 | 1 | 28 | — | 226 | 17·0 | 19 | 4 | 4 | 4 | 4 | — | 2 | — | 10 | 47 | 3·5 | 282 | 21·2 | 144 |
| Hampstead ... ... ... ... ... ... | 75,443 | 3 | 26 | 9 | — | 3 | — | 1 | 7 | — | 54 | 7·5 | 2 | 4 | 2 | 4 | 1 | — | — | — | 3 | 16 | 2·2 | 86 | 11·9 | 146 |
| St. Pancras ... ... ... ... ... ... | 233,739 | 11 | 146 | 47 | — | 10 | — | — | 40 | — | 254 | 11·3 | 2 | 4 | 9 | 15 | 13 | — | 3 | — | 30 | 76 | 3·4 | 386 | 17·2 | 184 |
| Islington ... ... ... ... ... ... | 331,900 | 7 | 145 | 62 | — | 20 | 1 | 1 | 26 | — | 262 | 8·2 | — | 2 | 6 | 18 | 11 | — | 2 | — | 27 | 66 | 2·1 | 420 | 13·2 | 165 |
| Stoke Newington ... ... ... ... ... | 34,172 | — | 7 | 4 | — | 1 | — | — | 4 | — | 16 | 4·9 | — | — | — | 1 | 1 | — | 1 | — | 2 | 5 | 1·5 | 29 | 8·9 | 56 |
| Hackney ... ... ... ... ... ... ... | 211,493 | 1 | 94 | 51 | — | 12 | — | — | 19 | — | 177 | 8·7 | — | 9 | 5 | 10 | 5 | — | 1 | — | 34 | 64 | 3·2 | 297 | 14·6 | 182 |
| *Central Districts.* | | | | | | | | | | | | | | | | | | | | | | | | | | |
| St. Giles ... ... ... ... ... ... ... | 38,144 | 1 | 6 | 2 | — | 1 | — | — | 7 | — | 17 | 4·6 | — | 1 | — | 1 | — | — | — | — | 7 | 9 | 2·5 | 58 | 15·9 | 184 |
| St. Martin-in-the-Fields ... ... ... | 13,783 | — | 2 | 4 | — | — | — | — | 2 | — | 8 | 6·1 | — | — | 1 | 2 | — | — | — | — | — | 3 | 2·3 | 18 | 13·6 | 45 |
| Strand ... ... ... ... ... ... ... | 23,179 | — | 2 | 4 | — | — | — | — | — | — | 6 | 2·7 | — | 1 | — | — | 1 | — | — | — | 4 | 6 | 2·7 | 39 | 17·5 | 184 |
| Holborn ... ... ... ... ... ... ... | 32,438 | 2 | 3 | 1 | — | 4 | — | — | 6 | — | 16 | 5·1 | — | 5 | — | 1 | — | — | — | — | 1 | 7 | 2·3 | 49 | 15·8 | 145 |
| Clerkenwell ... ... ... ... ... ... | 65,312 | 1 | 22 | 22 | — | 12 | — | — | 10 | — | 67 | 10·7 | — | 7 | 1 | 2 | 2 | — | 1 | — | 17 | 30 | 4·8 | 123 | 19·6 | 235 |
| St. Luke ... ... ... ... ... ... ... | 41,168 | 3 | 9 | 10 | — | — | — | — | 6 | — | 28 | 7·1 | — | 1 | 1 | 2 | — | — | 1 | — | 6 | 11 | 2·8 | 72 | 18·2 | 130 |
| City of London ... ... ... ... ... | 34,832 | — | 3 | 8 | — | 4 | — | 1 | 7 | — | 23 | 6·9 | — | — | — | 2 | — | — | 1 | — | 1 | 4 | 1·2 | 69 | 20·7 | 187 |
| *East Districts.* | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Shoreditch ... ... ... ... ... ... | 123,186 | 1 | 51 | 19 | — | 6 | — | 1 | 19 | — | 97 | 8·2 | — | 2 | 3 | 7 | 2 | — | 1 | — | 23 | 38 | 3·2 | 222 | 18·8 | 206 |
| Bethnal Green ... ... ... ... ... | 129,840 | 5 | 48 | 45 | — | 8 | 1 | — | 15 | — | 122 | 9·8 | 1 | 3 | 2 | 7 | 7 | — | 1 | — | 18 | 39 | 3·1 | 215 | 17·3 | 165 |
| Whitechapel ... ... ... ... ... ... | 75,498 | — | 25 | 24 | — | 5 | — | — | 14 | — | 68 | 9·4 | — | 2 | — | 7 | 2 | — | — | — | 14 | 25 | 3·5 | 145 | 20·0 | 203 |
| St. George-in-the-East ... ... ... | 45,360 | — | 17 | 26 | — | 4 | — | — | 10 | — | 57 | 13·1 | — | 1 | 3 | 7 | 1 | — | 1 | — | 12 | 25 | 5·7 | 134 | 29·8 | 249 |
| Limehouse ... ... ... ... ... ... | 57,000 | — | 27 | 15 | — | 5 | — | — | 6 | — | 53 | 9·7 | — | 7 | 3 | 4 | 1 | — | 1 | — | 5 | 21 | 3·8 | 124 | 22·7 | 203 |
| Mile End Old Town ... ... ... ... | 108,242 | — | 47 | 19 | — | 4 | — | — | 18 | — | 88 | 8·5 | — | 3 | 4 | 6 | 5 | — | 2 | — | 18 | 38 | 3·7 | 184 | 17·7 | 172 |
| Poplar ... ... ... ... ... ... ... | 170,217 | 2 | 68 | 53 | — | 17 | — | 1 | 31 | — | 172 | 10·5 | — | 17 | 6 | 8 | 4 | — | 2 | — | 27 | 64 | 3·9 | 318 | 19·5 | 192 |
| *South Districts.* | | | | | | | | | | | | | | | | | | | | | | | | | | |
| St. Saviour Southwark ... ... ... | 26,712 | — | 4 | 9 | — | 4 | — | 1 | 4 | — | 22 | 8·6 | — | — | 1 | 3 | — | — | 2 | — | — | 6 | 2·3 | 46 | 18·0 | 113 |
| St. George Southwark ... ... ... | 60,060 | — | 17 | 17 | — | 2 | — | — | 6 | — | 42 | 7·3 | — | 3 | 1 | 4 | — | — | 1 | — | 10 | 19 | 3·3 | 120 | 20·8 | 225 |
| Newington ... ... ... ... ... ... | 118,512 | — | 55 | 32 | — | 11 | — | — | 21 | — | 119 | 10·5 | — | 1 | 1 | 6 | 1 | — | 2 | — | 12 | 23 | 2·0 | 193 | 17·0 | 149 |
| St. Olave Southwark ... ... ... ... | 12,984 | — | 3 | 5 | — | — | — | — | — | — | 8 | 6·4 | — | — | — | 1 | — | — | — | — | — | 1 | 0·8 | 16 | 12·9 | 22 |
| Bermondsey ... ... ... ... ... ... | 84,053 | — | 23 | 35 | — | 7 | — | — | 13 | — | 78 | 9·7 | — | 5 | 1 | 11 | 4 | — | — | — | 8 | 29 | 3·6 | 155 | 19·2 | 140 |
| Rotherhithe ... ... ... ... ... ... | 40,365 | 1 | 20 | 20 | — | 2 | 1 | 1 | 23 | — | 68 | 17·6 | — | — | 1 | 2 | 1 | — | — | — | 12 | 16 | 4·1 | 75 | 19·4 | 311 |
| Lambeth ... ... ... ... ... ... ... | 282,574 | 4 | 86 | 59 | — | 20 | 6 | 4 | 22 | 2 | 203 | 7·5 | 1 | 6 | 2 | 19 | 14 | — | 1 | — | 51 | 94 | 3·5 | 425 | 15·7 | 182 |
| Battersea ... ... ... ... ... ... ... | 161,558 | 5 | 69 | 28 | — | 13 | — | — | 41 | 1 | 157 | 10·1 | 1 | 3 | 3 | 10 | 11 | — | 2 | — | 35 | 65 | 4·2 | 244 | 15·8 | 217 |
| Wandsworth ... ... ... ... ... ... | 179,518 | — | 46 | 37 | — | 6 | — | 2 | 28 | 1 | 120 | 7·0 | — | 10 | 1 | 9 | 5 | — | — | — | 22 | 47 | 2·7 | 214 | 12·4 | 153 |
| Camberwell ... ... ... ... ... ... | 248,893 | 3 | 60 | 67 | — | 8 | 1 | — | 23 | — | 162 | 6·8 | — | 18 | 3 | 21 | 17 | — | — | — | 33 | 92 | 3·9 | 349 | 14·6 | 170 |
| Greenwich ... ... ... ... ... ... | 173,128 | 1 | 77 | 52 | — | 14 | — | 1 | 16 | — | 161 | 9·7 | — | 16 | 3 | 13 | 3 | — | 3 | — | 33 | 71 | 4·3 | 279 | 16·8 | 196 |
| Lewisham (excluding Penge) ... ... | 79,903 | 1 | 19 | 15 | — | 3 | — | 2 | 8 | — | 48 | 6·3 | — | — | — | 4 | 1 | — | — | — | 13 | 18 | 2·3 | 94 | 12·3 | 118 |
| Woolwich... ... ... ... ... ... ... | 42,309 | — | 14 | 5 | — | — | — | — | 3 | — | 22 | 5·4 | — | — | 6 | — | — | — | 1 | — | 6 | 13 | 3·2 | 63 | 15·5 | 148 |
| Lee ... ... ... ... ... ... ... | 38,172 | — | 10 | 6 | — | — | — | — | 4 | — | 20 | 5·5 | — | — | — | 1 | — | — | — | — | — | 1 | 0·3 | 41 | 11·2 | 77 |
| Plumstead ... ... ... ... ... ... | 59,233 | 1 | 73 | 7 | — | 1 | — | — | 4 | — | 86 | 15·1 | — | 1 | 3 | 2 | — | — | — | — | 5 | 11 | 1·9 | 53 | 9·3 | 94 |
| Port of London ... ... ... ... ... | — | — | 3 | — | — | 3 | — | — | — | — | 6 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

* Including 41 cases of membranous croup.

† Including deaths from membranous croup.

the deaths of 6683 persons belonging to London were registered, equal to an annual rate of 16·0 per 1000, against 16·9, 15·7, and 16·2 in the preceding three months. The lowest death-rates during August in the various sanitary areas were 8·9 in Stoke Newington, 9·3 in Plumstead, 11·2 in Lee, 11·9 in Hampstead, 12·3 in Lewisham (excluding Penge), 12·4 in Wandsworth, and 12·9 in St. Olave Southwark; the highest rates were 20·0 in Whitechapel, 20·7 in the City of London, 20·8 in St. George Southwark, 21·2 in Marylebone, 22·7 in Limehouse, and 29·8 in St. George-in-the-East. During the five weeks of August 1297 deaths were referred to the principal zymotic diseases in London; of these, 28 resulted from small-pox, 162 from measles, 81 from scarlet fever, 251 from diphtheria, 139 from whooping-cough, 39 from enteric fever, and 597 from diarrhœa. These 1297 deaths were equal to an annual rate of 3·1 per 1000, against 3·6, 2·8, and 3·2 in the preceding three months. The lowest death-rates from these diseases were recorded in Chelsea, St. George Hanover-square, Stoke Newington, City of London, St. Olave Southwark, and Lee, and the highest rates in Paddington, Fulham, Clerkenwell, St. George-in-the-East, Rotherhithe, Battersea, and Greenwich sanitary areas. Twenty-eight fatal cases of small-pox were registered in London during the month under notice, the corrected average in the corresponding periods of the preceding ten years being 11; of these 28 deaths, 19 belonged to Marylebone, 2 to Hampstead, and 2 to St. Pancras sanitary areas. The 162 deaths referred to measles were 39 below the corrected average number; among the various sanitary areas this disease showed the highest proportional fatality in Paddington, Holborn, Limehouse, Poplar, and Greenwich sanitary areas. The 81 fatal cases of scarlet fever were 30 below the corrected average; this disease was proportionally most fatal in St. George-in-the-East, Woolwich, and Plumstead sanitary areas. The 251 deaths referred to diphtheria exceeded by 112 the corrected average; among the various sanitary areas this disease showed the highest proportional fatality in Paddington, St. Martin-in-the-Fields, Whitechapel, St. George-in-the-East, St. Saviour Southwark, Bermondsey, and Camberwell sanitary areas. The 139 fatal cases of whooping-cough were 39 below the corrected average; this disease was proportionally most fatal in Fulham, Bethnal Green, Bermondsey, and Camberwell sanitary areas. The 39 deaths referred to enteric fever were 29 below the corrected average; there was no marked excess of mortality from this disease during last month in any of the sanitary areas. The 597 fatal cases of diarrhœa were little more than half the corrected average. This disease showed the highest proportional fatality in Fulham, Clerkenwell, St. George-in-the-East, St. George Southwark, Rotherhithe, and Battersea sanitary areas. In conclusion, it may be stated that the mortality in London during the month under notice from these principal zymotic diseases was as much as 25 per cent. below the average, owing principally to the unusually slight prevalence of summer diarrhœa.

Infant mortality in London during August, measured by the proportion of deaths under one year of age to registered births, was equal to 176 per 1000, and was below the average; the lowest rates were recorded in Stoke Newington, St. Martin-in-the-Fields, St. Saviour Southwark, St. Olave Southwark, Lewisham, Lee, and Plumstead; and the highest rates in Paddington, Kensington, Clerkenwell, Shoreditch, St. George-in-the-East, St. George Southwark, Rotherhithe, and Battersea sanitary areas.

# THE SERVICES.

### MOVEMENTS OF THE MEDICAL STAFF.

SURGEON-CAPTAIN STALKARTH has embarked for India on return from leave, and Surgeon-Lieutenants Moore and O'Reilly on a tour of service. Brigade-Surgeon-Lieutenant-Colonel Moore has been granted sick leave from Bombay. Surgeon-Major Trewman and Surgeon-Captain Whitny have arrived from the Cape on completion of a tour of foreign service.

### ARMY MEDICAL STAFF.

Surgeon-Lieutenant-Colonel Andrew Arthur Macrobin, M.B., is promoted to the rank of Brigade-Surgeon-Lieutenant-Colonel.

### MILITIA.

King's Royal Rifle Corps: Surgeon J. Creagh to be Surgeon-Captain.

### NAVAL MEDICAL SERVICE.

Staff-Surgeon Robert Bentham has been promoted to the rank of Fleet-Surgeon.

### VOLUNTEER MEDICAL STAFF CORPS.

The Manchester Companies: Surgeon-Lieutenant J. J. K. Fairclough, M.D., to be Surgeon-Captain.

### THE INDIAN MEDICAL SERVICE AND ARMY MEDICAL STAFF.

An annotation which appears in our issue this week, calling attention to the not altogether satisfactory chances which the army holds out to those now seeking commissions, is somewhat aptly supplemented by the following communication which we have received from a regular correspondent, pointing out tersely the advantages that the Army and Indian Medical Services hold out to the young man:—"The advantages which the two Services hold out to young medical men are obvious. To begin with, at the outset of life a career is entered on which does not involve any outlay of capital, which gives a competence, and which, while affording more leisure than can be hoped for in civil practice during middle life, leads to a time when rest and absolute leisure and provision are secured by pension. Of the relative advantages offered by the three Services I think the results of the competitive examinations enable us to form the conclusion that the Indian Medical Service, even in these days of low exchange value in silver currencies, still holds the first place. The reason for this is probably to be found in the circumstance that in the life of a medical officer of the Indian service the military element is much less accentuated than it is in that of an officer of the Army Medical Staff. After a short period of military duty a medical man in the Indian Service who desires to work at his profession can enter civil life and, while keeping his military rank and the prestige which it brings, practically becomes a civilian. The civil appointments which are open to the officers of the Indian Medical Service include the professorships in the medical colleges, the civil surgeoncies, the sanitary appointments all over India, the governorships of prisons, the resident appointments in the large hospitals, various appointments in the secretariat, the assay, the statistical and opium departments, and many valuable appointments, political and medico-political, under the Indian Foreign Office. From the first the pay in the Indian Service is sufficiently good to enable a man to live in comfort, and in a short time he finds himself with an independent and responsible charge. The one point in which the Army Medical Staff has an advantage over the Indian Service is in the matter of the half-pay allowances given to officers who break down in the service of their country early in life. The members of the Indian Service should endeavour to get their half-pay allowances placed on the same scale as those now issued to the officers of the sister service, which I consider very fairly liberal. Young medical men who enter the Army Medical Staff must look forward to as much, or almost as much, foreign service as those who enter the Indian Medical Service, and while this is the case they do not get the long periods of leave which the officers of the latter service enjoy. They are also in a much less independent position and have only a purely military life to look forward to. Their foreign service need not necessarily be altogether Indian, however, if they find that climate unsuitable or injurious to them, as in the case of officers of the Indian Medical Service."

### CHOLERA AT LUCKNOW.

Our readers have no doubt noticed the accounts in the Anglo-Indian papers of the sudden and violent outbreak of cholera in the Lucknow cantonments. The East Lancashire Regiment had no less than 140 seizures and 90 deaths, and was moved out. According to intelligence from Simla, the seat of Government, other regiments did not altogether escape, but contributed victims to the cholera death-roll, although to nothing like the same extent. Lucknow, in regard to its liability to cholera and enteric fever, is acquiring an unenviable reputation.

### CIVIL SURGEONS IN HILL STATIONS.

The *Pioneer Mail* states that the Government of India has empowered the Local Governments to extend the tenure of these appointments from two to three years in cases where it is deemed desirable. In the case of the two civil surgeoncies

at Simla, however, they remain as at present—three years' appointments.

THE RECENT OUTBREAK OF ENTERIC FEVER AT MHOW.

We are glad to learn that the outbreak of enteric fever in the Durham Light Infantry at this station has apparently come to an end, and the patients at present in hospital are said to be recovering.

# Correspondence.

"Audi alteram partem."

## "THE CHELSEA HOSPITAL FOR WOMEN."

*To the Editors of* THE LANCET.

SIRS,—I have now been officially furnished with an excerpt from the operation books giving an account of all the operation cases entered under my care at the Chelsea Hospital for Women since I joined the staff in February, 1891. The list is, I fear, too long to reproduce *in extenso* in your columns, comprising, as it does, 101 entries. The object of my present communication is to place before you the actual results of these operations with reference to the mortality. My total mortality after operations of all kinds was 9 out of 101 cases, equal to 8·9 per cent. Comparing the three years 1891, 1892, and 1893, we have the following:—In 1891, 15 cases, with four abdominal sections included, 0 deaths; in 1892, 34 cases, 13 abdominal sections, 3 deaths; in 1893, 44 cases, with 15 abdominal sections, 6 deaths; and in 1894, from May to July, 8 cases, 1 abdominal section, 0 deaths; being 101 cases, with 9 deaths = 8·9 per cent. mortality. All the six deaths in 1893 occurred between June and November.

*Statistics.*—My ovariotomies numbered 9 cases with 1 death; hysterectomy and myomectomy, 3 cases with 2 deaths. The results of my ventro-fixation cases were marred by one exceptionally difficult case.[1] I have performed this operation in five cases in all, and in none of these had any less serious procedure proved useful.

I had two operations for extra-uterine gestation, one being an advanced case;[2] both recovered. In operations for pelvic peritonitis (including pelvic abscess and suppurative peritonitis), of 5 cases 2 died. Of the 9 other operations, comprising evacuation of the broad ligament cyst, 1; ventral herniotomy, 2; exploratory incision for tubo-ovarian disease, 1; and also for malignant pelvic disease, 1; with removal of diseased uterine appendages, 3; and supra-pubic cystotomy, 1; 3 were fatal. Of the total number of abdominal sections (33) 9 were fatal; 3 of these occurred in 1892, and the 6 others in June, July, August, September, and November of 1893. Some surprise has been expressed that I, as one of the out-patient physicians to the hospital, should have had so large a number of serious operations. The explanation is simple. In 1892 some beds were allotted to each of the out-patient physicians of a certain standing. It was the custom of the hospital that out-patients requiring in-door treatment were transferred to the in-patient physician; but when a patient was specially recommended by her medical attendant to an individual out-patient physician, the out-patient physician to whom the case was sent admitted her under his own care and performed any operation that might be necessary. The number of operations, therefore, performed by any one of the out-patient physicians depended for the most part upon the number of cases sent to him by his professional brethren.

I had no deaths after any other operations. In Classes 6, 7, 8, 10, and 11 of the report, which include removal of submucous fibroids per vaginam, removal of uterine polypi, amputations of the cervix for cancer and hypertrophy, perinæorrhaphy, colporrhaphy, curetting for endometritis and incomplete abortion, none became septic and all recovered.

*Notes on the fatal cases.*—Case 11 was admitted suffering from suppurative peritonitis. She was almost moribund. Operation was only agreed to as a possible means of averting death. (September, 1892.) Case 12 was the subject of pelvic abscess and a suppurating dermoid. She was operated upon on the same day as Case 11, and, contrary to my instructions, was placed in the same ward. She died from septic peritonitis in September, 1892. Case 17 died from shock after a very severe operation. There were no signs of sepsis or peritonitis. (December, 1892.) The sanitary conditions of the hospital had nothing to do with these deaths. Case 23 was the subject of a very difficult operation; the abdomen had to be reopened in consequence of hæmorrhage. At the necropsy evidences of commencing peritonitis were found. Case 24: This patient, sixty years of age, had retro-peritoneal hæmorrhage; the abdomen was reopened. At the necropsy no lesions were found accounting for the hæmorrhage; the large vessels were atheromatous. Case 25 had a quiet pulse and temperature till the sixth day, the former being from 76 to 92; the latter did not reach 101° F. till the seventh day, when she suddenly died. Case 26 had an increased temperature from the second day, but the pulse remained uniformly below 100, ranging from 70 to 90 until the sixth day. The abdominal wound healed by first intention and remained healthy throughout; there was never abdominal distension or vomiting; micturition was natural; there was no pain; nothing but weakness was complained of, and she took nourishment until an hour before her death. At the necropsy, which was limited to the abdomen, nothing was found to account for her death. No peritonitic or septic sign was seen. Case 28 had total suppression of urine, with no peritonitis and no injury to the bladder or ureters. She died from shock in thirty hours. Case 32 had intestinal paresis, with no action whatever of the bowels, and localised peritonitis; the temperature only once reached 102° till immediately before death.

*Responsibility, and record of private work.*—I was not on either of the controlling committees, so I am unable to determine how much the condition of the hospital had to do with certain of these deaths. This, however, I must state, that as far back as June, 1893, I expressed my opinion that the condition of the hospital and the arrangement for nursing operation cases required investigation. With the exception of Cases 26 and 28, all the deaths in 1893 occurred in the same ward. This ward contained nine beds; I understand that three of these have been discontinued. Four other of my abdominal operations treated in this ward during the same period did well—a fact which made me think that the after-care of the individual patients had more to do with the results than some of the other factors of success involved.

On comparing the results of my more recent hospital work with those I have obtained elsewhere during the same period I find that my hospital work has been much less successful. From 1891 to date, in over 70 gynæcological operations similar to those undertaken at hospital (including 13 abdominal sections and a complete vaginal hysterectomy) I have lost only 1 patient—a mortality equal to 1·3 per cent. The epitome of these abdominal sections gives 1 Cæsarean section, 2 ovariotomies, 4 abdominal hysterectomies, 1 section for intra-pelvic abscess, 1 for adherent broad ligament cyst, 1 for removal of malignant growth, 1 cöphorectomy for fibro-myoma uteri, 2 explorations—1 for malignant ovarian and pelvic disease, and 1 for the separation of pelvic adhesions—and a case of vaginal hysterectomy for cancer.

As to a secondary point inquired into by the Committee of Inquiry—namely, *Did septicæmia occur in cases which eventually recovered?*—I shall again deal only with my own work. In the evidence given before the committee it is stated: "Dr. Parkes has not attributed to any of your cases septic mischief?" (Q. 916.) I mentioned that all my fatal cases had been examined post mortem. The only cases which recovered, and regarding which I was asked to give evidence on this point, were Cases 22, 27, and 29 (Q. 937, Q. 959, and Q. 1005). In Case 27, an ovariotomy with extremely firm and numerous adhesions, during the whole of the first week the temperature was practically normal. During the whole convalescence it never exceeded 100°·5. Case 22 was one of salpingo-cöphorectomy for a small cystic ovary and purulent salpingitis. The disease was believed to be due to specific causes. There were no signs of peritonitis, and the patient made a good recovery and was about in twenty-eight days. Case 29 was one of myomectomy with intra-peritoneal treatment; the highest temperature during the first week was 100°·6; it was uniformly below 100° thereafter up to the thirtieth day after operation. The patient went home strong and well.

Finally, I had three deaths assigned to me of patients who had not been operated on. The first was the subject of an ovarian tumour, endocarditis, and hemiplegia. The second was a prematurely born infant, which I believe I

[1] Brit. Med. Jour., Oct. 14th, 1893.
[2] Brit. Gynæc. Jour., Part xxvii., November, 1891.

once saw in the ward, but which was never in any sense my patient. The third death has been erroneously entered as a post-operation death in the hospital book. In my evidence (Q. 917) I stated there was no operation. I understand that the committee, nevertheless, counted it as one of the septic deaths after operation, possibly thinking I had operated on the patient before her admission. I hold a letter from Mr. Parker of Lillie-road, with whom I saw the case in consultation, disproving this. So much material had to be dealt with that I am not surprised that some mistakes occurred. I am, Sirs, yours faithfully,

Sept. 8th, 1894. LEITH NAPIER.

*To the Editors of* THE LANCET.

SIRS,—The letter of Mr. A. C. Davis (Secretary) in THE LANCET of Sept. 8th begins by assuming that the Board of Management has altogether escaped censure at the hands of either Dr. Parkes or the Committee of Inquiry and has had no other duty to perform than to adopt certain kindly offered recommendations and to inflict chastisement upon a few objects of wrath of their own selection. This in the letter; but no one knows better than the Secretary that the Board of Management was censured by both these authorities certainly as plainly, though perhaps less wantonly, than the members of the staff. The staff protested against Dr. Parkes' charges by resigning in a body, such a course being considered by the majority to be the best method of signifying their denial of the truth of those charges. That denial has been justified by publication of facts and their details. The members of the Board of Management have not even offered to resign on the questions at issue, and the assertion in the letter that their action on the whole matter has been submitted to the governors and been approved by them three times is misleading. The governors have not as yet had an opportunity of expressing an opinion on the action of the board with a fair knowledge of the facts in their hands. Whatever that opinion may ultimately be, it is a poor thing—many will think it a mean thing—to endeavour to shift the odium of their unjust action on to Dr. Parkes' shoulders by directing their secretary to refer to some of us in such words as these: "Those late members of the medical staff of this hospital who, not having been re-elected, have had a slur cast upon them (the result of the action of Dr. Parkes)." The board and the secretary know full well that the "slur" was inflicted, not by Dr. Parkes, but by those who re-elected some of the staff and declined to re-elect others without one word of explanation. It is against this "slur" that I would ask you to kindly grant me sufficient space to protest.

I am, Sirs, yours faithfully,

F. F. SCHACHT, M.D. Cantab.

Curzon-street, W., Sept. 9th, 1894.

*To the Editors of* THE LANCET.

SIRS,—The letter of the secretary of the Chelsea Hospital for Women in THE LANCET of Sept. 8th seems to me to be a little misleading. The only meeting of the governors and subscribers held since the issue of the Committee of Inquiry's report was for its consideration, the report having been sent to each governor only a day or two previously. It was not until after its acceptance, and the determination agreed upon to carry out its various suggestions (no one of which had any immediate concern with the medical staff), that the resignations of the members of the staff were read. The request made to the board for the reconstruction of the staff without delay was made by Dr. Fenton at a time, in fact, when most of the members were on their feet to leave. I assert that at no time since this meeting has there been any communication between the Board of Management and the body of governors. The annual meeting, at which the Board of Management are re-elected, was held some time before the report of the committee was issued. I fear that no further information will be forthcoming before the next (and I hope not far distant) meeting of the governors.

I am, Sirs, yours faithfully,

Lynton, N. Devon, Sept. 9th, 1894. WILLIAM TRAVERS.

*To the Editors of* THE LANCET.

SIRS,—With reference to the statement made by some members of the former and present staff of this hospital that they had no voice in the management of the institution, I should like to state the simple fact that the laws provide (with the express object of giving the medical staff that representation on the managing and executive committees which they complained they lacked) that "the two senior physicians and the senior physician to out-patients shall be members of the Board of Management"; and that "the house committee shall consist of the treasurer, who shall be chairman, two physicians (the junior physician shall be a permanent member of the committee, and the two senior physicians shall alternately annually become members of the committee), and three lay members, and they shall meet every week, or more frequently if necessary, to transact the ordinary business of the hospital." Seeing that the whole staff only amounted to nine in number, a representation of 33 per cent. is, I venture to think, a very fair proportion. In addition to the above, however, there were for some years two members, and latterly one member, of the consulting staff on the Board of Management.

It was also an invariable custom to refer all medical matters to the medical staff as a body, and a minute-book recording the opinions of the meetings thus held has been in use for some years. From this record, indeed, I find that during the past year alone no fewer than twelve well-attended meetings were held—some by request of the Board and others on the initiative of the staff itself.

I am, Sirs, yours faithfully,

A. C. DAVIS,

Chelsea Hospital for Women, Sept. 7th, 1894. Secretary

## FIRST AID IN ELECTRIC ACCIDENTS.

*To the Editors of* THE LANCET.

SIRS,—For the information of those who are not medical men and electricians the article on the Pathology and Treatment of Electric Accidents in THE LANCET of Aug. 25th may be suitably supplemented by briefly adverting to the question of first aid in such cases, and to certain risks attendant thereon. It is obvious that the first thing to do is to detach the body of the victim from the circuit with which it is in contact; but it is equally obvious that, as that body is forming part of the circuit, it would be dangerous to touch the skin with bare hands, inasmuch as anyone doing so would thereby "shunt" a portion of the current through his own body. The clothing, if dry, would afford a considerable, but not quite adequate, protection; it is, therefore, necessary to improvise some kind of insulation for the hands of the rescuer. Further, as is well known, the muscles of a body traversed by an alternating current of high tension remain in a state of tonic contraction. In other words, a hand grasping a cable remains tightly clenched (the condition of "fixation"), and detachment is not always easy. Such accidents generally occur by the completion of a circuit between the cable and the earth, but sometimes contact is made simultaneously with both poles of a circuit. The time seems to have arrived for the publication of some carefully considered authoritative code of instructions for the management of such accidents as well as for their prevention; in the meantime, however, such considerations as the foregoing would appear to point to the following—

*Rules for guidance in electric accidents.*—1. Break the circuit at once if there be an interrupter close at hand and you know how to use it. If not, lose no time, but proceed to Rule 2. 2. Do not touch the man's body with your bare hands, but if indiarubber gloves are not at hand pull him off the cable by his coat-tail, or fold your coat or some such dry article into two or three thicknesses, and, using this as a pad to take hold of the body, pull it away from the circuit and resort to Rule 5. 3. If unable to get him off, raise with covered hands that part of the body which is touching the earth, or one of the poles of the circuit. This will break the circuit, and it will usually be thus possible to get him easily away, and, if so, proceed to Rule 5. 4. If still unsuccessful, make another pad, and, placing it between the ground and that part of the body in contact with the ground, continue your efforts to detach him. 5. Having pulled him away from the cable, free his neck from clothing, and treat the case as one of drowning, one method being as follows. 6. Open his mouth, and, taking hold of the front part of the tongue with your fingers (covered with a handkerchief if you have one), draw the tongue forwards, and gradually let it go back sixteen times a minute. Be sure that the *root* of the tongue is acted upon and drawn forward. If the teeth are clenched and you cannot get them apart with your fingers, gently separate them with the handle

of a pocket-knife or by a small piece of wood, cork, &c. 7. Resist the efforts of the bystanders to pour stimulants down his throat until a medical man arrives and "takes over" the case. I am, Sirs, yours faithfully,

Brighton, Aug. 28th, 1894. W. S. HEDLEY, M.D.

## BICHLORIDE OF MERCURY IN DIPHTHERIA.

*To the Editors of* THE LANCET.

SIRS,—Dr. Davison[1] recommends the exhibition of bichloride of mercury and the external use of ichthyol to the neck in the treatment of diphtheria, and according to his statistics he has employed it with marvellous success. In his paper he mentions an article on the same disease published in THE LANCET of April 3rd, 1886. I remember reading this paper, and, having had soon after no less than five cases of diphtheria in an out-of-the-way farmhouse with shocking sanitary surroundings, all of which recovered when treated with the bichloride without the ichthyol, it seems to me it is desirable to republish the doses recommended in the paper last mentioned, and which were used in my cases. They are as follows: ¼ gr. in 4 oz. of water for young children; ½ gr. in 6 oz. of water for children of six or seven years; and ¾ gr. in 8 oz. of water for adults; to be given in twenty-four hours. In addition, ichthyol was directed to be rubbed into the glands of the neck, and, if there was much fever, 30 gr. of antipyrin were to be given in an enema (I suppose for adults). The readers of THE LANCET will observe that I have a few cases only to put on record, and this is accounted for by the fact that I was mainly doing a consulting practice at the time, so that few acute diseases came under my own observation and treatment *ab origine*; and that the doses of the bichloride are somewhat curiously stated. These are, however, carefully transcribed from notes I made at the time.

I am, Sirs, yours obediently,

Truro, Cornwall, Sept. 8th, 1894. WM. DALE, M.D. Lond. &c.

P.S.—During this treatment the diet is to be milk only.

## "CONSULTANTS' DIFFICULTIES."

*To the Editors of* THE LANCET.

SIRS,—I was pleased to see a letter from "A Loyal Consultant" in your columns. I have always contended that without a full introduction (personally or by letter) of the patient to the consultant by the medical man in regular attendance there can be no possible consultation. If a patient goes off secretly to another medical man I look on it as a vote of want of confidence and expect the so-called "consultant" to continue the treatment of the case. It is not usually difficult to find out whether a patient is under medical treatment by a general practitioner, and if he be there can be no justice done either to patient, consultant, or ordinary medical attendant without a "consultation." A consultation takes place between the two medical men directly in the interest of the patient, or at least ought to do so, and in no other way. Any other course means this—that the patient goes to a second medical man with the idea of extracting from him what he calls an independent opinion, and this verdict he contrasts with the idea of his illness he has formed from what his former attendant has told him. Two medical opinions, and perhaps alternative treatments, battle together in the non-medical brain of the patient. First, perhaps, he heaps scorn upon the general practitioner, and, secondly, the consultant's time comes. He has a fatal lack of confidence and cannot trust the medical men to act jointly for his good. From such patients may we be delivered. They are no credit to the profession; but we shall never be free from them till all consultants are loyal. I am, Sirs, yours faithfully,

Sept. 10th, 1894. J. B. PIKE.

*To the Editors of* THE LANCET.

SIRS,—Your remark, "Would that loyal consultants were more numerous," will be heartily endorsed by all of your readers, except those who belong to the class one may term "disloyal consultants," the meaning of which will be apparent. What is a consultant? Is he a man whom anyone may directly consult? If so, then all general practitioners are consultants, and the sooner the term is abolished the better. Or is he one with whom the general practitioner consults to the advantage of his patient in any case of doubt or difficulty? The latter I believe to be the proper meaning attaching to the term "consultant." It appears to be desirable that general practitioners should know whether or not a man is a loyal consultant before calling him into consultation, for no one would care to call in a man who would be likely at any time to appropriate the patient to himself. To this end I would suggest that those who desire to figure in the ranks of consultants should be described as such in the Medical Directory, so that all the world might recognise those who are loyal consultants and those who are not. By some such method as this one could distinguish between those who are true consultants and those who belong to the mongrel class of consultant and general practitioner. It is possible, as in the case of "Loyal Consultant," that it might at first cause loss of practice, but, inasmuch as the general body of practitioners would staunchly support him and his *confrères*, any pecuniary loss on this account would soon be made up, and the pseudo-consultants would disappear into well-merited oblivion. I remain, Sirs, yours truly,

Sept. 10th, 1894. F.R.C.S.

[1] THE LANCET, Aug. 18th, 1894.

## THE EFFECTS OF LIGHTNING.

*To the Editors of* THE LANCET.

SIRS,—By the same post I am sending you the skin of a rabbit which has simply been rubbed over inside with table salt. When we, a party of five, were at lunch in the keeper's cottage in Kingswood, near Woodstock, this afternoon, there was some thunder about. About a quarter past two there was a tremendous crash with a blaze of light—the light reddish, certainly not blue—and we all felt more or less shaken and were certain that the lightning had struck somewhere very near us. We soon found that a tree thirty-five yards from the cottage had been struck. The bark had been ripped off the tree in two streaks between two and three inches wide, and some of it was hanging in strips from the tree; and pieces of bark in small pieces and in strips were lying for a distance of at least ten yards all round the tree. The tree was a larch, and the tallest near us, and was estimated by an architect and a builder, who were of our party, to be at from fifty-five to sixty feet in height. At the foot of the tree, about a foot from its base, we found a rabbit lying dead. It is the skin of this rabbit that I am sending you. You will see where the electricity has scorched off the fur, and we all noticed that there was a distinct smell of burning about the rabbit. The latter was quite warm and limp, and lying on its side, the eyes being open and quite bright.

I am, Sirs, yours truly,

T. W. CARMALT JONES.

King William-street, E.C., Sept. 6th, 1894.

*** An annotation dealing with this letter and the pelt referred to will be found on p. 647.—ED. L.

## BACTERIOLOGY AND THE MEDICAL CURRICULUM.

*To the Editors of* THE LANCET.

SIRS,—With reference to your able leading article on the position that bacteriology should occupy in the medical curriculum, I should like to state my views on the question. The medical man nowadays should be sufficiently conversant with staining methods to be able to stain and examine the tubercle bacillus in the expectorations of a phthisical patient, and to examine the false membrane of diphtheria, with the object of determining whether any organism resembling the diphtheria bacillus is present, and, further, to examine the blood for such organisms as the anthrax bacillus. Every veterinary student in the kingdom is instructed in these elementary methods, and no medical school can, with credit to itself, allow its students to leave its shelter without equipping them with this modicum of bacteriological knowledge. I consider, further, that every medical student should have one opportunity at least of preparing artificial nutrient media, of making pure cultures by the plate method, and of making and watching pure cul-

tivations, especially of those organisms with which he may have to deal in his life work; for example, he should be able to isolate the cholera organism on plates and the diphtheria organism on agar in tubes. If he has once done this he will be able to extend his knowledge and refresh his memory by reference to some of the many admirable text-books on bacteriology to which a medical man now has access, a very complete and discreet list of which also appears in your "Students' Number." But unless he has had this practical instruction and experience he will waste much valuable time and material in doing very imperfectly what he might at little trouble and less cost do thoroughly and well. In this age of immunised serum and antitoxines it behoves every practitioner of medicine to have a knowledge of the technique of sterilisation, of apparatus, of inoculation and injection syringes, and of fluids as carried on in a well-conducted laboratory, and I do not hesitate to say that a very short time spent in gaining this knowledge and technical dexterity would be some of the best-spent time in the whole curriculum.

I am, Sirs, yours faithfully,
A PRACTICAL BACTERIOLOGIST.

## NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

*Sunderland Infirmary and its Convalescent Home.*

THE foundation-stone of a new wing for male patients in connexion with the convalescent home of the Sunderland Infirmary at Harrogate will be laid on Saturday, the 15th inst. As is now pretty well known, the Heatherdene Convalescent Home is an adjunct of the Sunderland Infirmary, and the need of a wing for male patients has been felt ever since the opening of the institution two years ago. The cost is estimated at about £2750, and towards this the Ecclesiastical Commissioners have given a donation of £1000. The work will occupy about nine months, and extra accommodation for fourteen patients will be provided. Mr. Lindon Travers has been made a life governor of the Sunderland Infirmary as an acknowledgment of the many handsome additions made to its funds through the medium of his popular entertainments.

*The Water-supply of Newcastle.*

At a meeting of the City Council of Newcastle it was stated that the quantity of water in store on Aug. 31st was 1274 millions of gallons, being nearly 547 millions of gallons more than there was in store on the corresponding date of last year. During August, notwithstanding the heavy rainfall, the water in store had decreased. The quality of the water was satisfactory.

*Outbreak of Typhoid Fever at Blyth.*

Mr. J. Cromie reported to the South Blyth Local Board that during the past month sixteen cases of typhoid fever had been notified, and one death had occurred from this cause. The majority of the cases had been apparently contracted in the South Ward, but every precaution had been taken to prevent the spread of the disease. The outbreak, he believed, was due to sewer air coming through imperfect traps, and he suggested that ventilators be supplied to all the drains in that district.

*Small-pox and Vaccination at West Hartlepool.*

Dr. Gourley says that of the eleven cases in the late outbreak of small-pox four were unvaccinated, three of whom died. The other seven had been vaccinated, although few of them showed good marks, and these were all improving. Most of the patients were friends or relatives, and became infected from a common centre. Dr. Gourley says: "If only the Vaccination Acts were effectually carried out, this scourge could be wiped out of the list of diseases, the country saved expense, and valuable lives saved as well." This slight outbreak, like many preceding ones, clearly proves the correctness of this statement.

*Presentation to Dr. W. D. Arnison.*

The members of the Newcastle (N.E.R.) ambulance classes met in their practice room, Central Station, last night for the purpose of presenting to Dr. W. D. Arnison a handsome stationery cabinet, suitably inscribed, in recognition of his services as medical instructor.

Newcastle-on-Tyne, Sept. 12th.

## SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

*The Death-rate in Glasgow.*

DURING the past week the death-rate in the city of Glasgow has been only 15 per 1000, a low rate for the city even in September.

*New Drainage Scheme.*

Some time ago an account was given in these columns of the sewage precipitation works in Glasgow, whereby about one-fifth part of the city sewage—that coming from the eastern, north-eastern, and a great part of the central districts—is dealt with, the effluent being sent into the Clyde bright and clear, and entirely inoffensive. Plans are now being submitted for dealing with nearly the whole of the remainder of the city sewage, omitting in the meantime the southern districts. The proposal is to take the sewage away from the city to Dalmuir, a distance of nine and a half miles, where the corporation have a considerable stretch of farm land on the banks of the river. This land is found to be, in regard to levels, means of communication, facilities for removal of products, &c., admirably suited for the erection of large precipitation works. When this scheme has been completed, and the remaining portions of the city sewage have been treated in the same way, the corporation will be able, with "clean hands," to insist that the neighbouring communities on the upper and lower reaches of the river shall cease to pollute the river as they now do.

*Hospital Sunday.*

It has at length been definitely arranged that Glasgow is to have a Hospital Sunday worthy of its reputation. The date is fixed for Oct. 28th next. Three hundred Presbyterian churches in the city and its neighbourhood have agreed to make a simultaneous effort on that date, aided by 120 churches of other denominations, and by the Roman Catholic congregations of the district. Over 400 Sabbath schools have also indicated their desire to join in the movement. Last year from occasional church collections, and with no properly organised system the churches contributed £2090 to the three infirmaries, a sum which, it is hoped, will be greatly increased on our first regular Hospital Sunday.

Sept. 9th.

## IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

*Health of Dublin during 1893.*

SIR CHARLES CAMERON'S report upon the state of public health in the city of Dublin for the past year has been issued. The births registered in the Dublin registration district numbered 10,009, being equal to 29 per 1000. The deaths amounted to 7139, of which 839 were due to the principal zymotic diseases. Typhoid fever produced 218 deaths, the highest number recorded in any year. The rainfall in 1893 was very small, and the summer was exceptionally warm and prolonged—meteorological conditions which probably were the causes of the increase. In June, 1893, a report on the prevalence of enteric fever in Dublin was issued under the auspices of the Dublin Sanitary Association, and presented to the corporation, and an abstract of the committee's report was published in THE LANCET. They assigned as the principal cause of the undue prevalence of typhoid fever the condition of the subsoil water, and urged the absolute necessity of an efficient system of subsoil drainage. The committee gave the results of a number of analyses made of the ground water, but no typhoid bacillus was found in it nor, as Sir C. Cameron suggests, was looked for. Before entering upon a big engineering scheme for the drainage of the subsoil, it appeared to Sir C. Cameron that the actual condition of the soil as regards water should be ascertained, and at his suggestion the Public Health Committee agreed to sink wells for the purpose of ascertaining the height of the ground water. Seven wells were sunk in various parts of the city, and repeated examinations showed that on the whole the water comes nearer to the surface of the ground at the highest points of the city. This seems due to the fact that the clay prevails there, while the gravel lies low. There is a greater movement in the air of the gravels than in that of the clays, and a much larger volume of air exists in the former. Now

the typhoid bacillus is an aerobian organism—i.e., requires air—and consequently can exist to a greater extent in the gravels than in the clays. The fact established by this investigation is that the part of Dublin supposed to be waterlogged—that is, that lying nearest to the river Liffey—is the driest part. It seems very probable that typhoid fever has become endemic in late years—in the same way as diphtheria, notwithstanding all the great hygienic improvements in London is increasing in that city, and, indeed, in many others. Further, in many American cities which formerly had little or no typhoid fever that disease has of late years been steadily increasing.

*Small-pox in King's County.*

Isolated cases of this disease have occurred in Birr district. In the Portumna workhouse a case is being treated by the medical staff, while in Edenderry there have been several cases, with two deaths. In another case a tramp was admitted to the workhouse with the disease, and the various places at which he slept have been disinfected. Both the Portumna and Edenderry boards of guardians have adopted precautions against the disease spreading.

*Queen's College, Belfast: the President's Annual Report.*

From the report of the President, the Rev. Dr. Hamilton, for the session 1893-94 I find that 112 new students entered Queen's College last session, while the total number enrolled in the various faculties was 429, distributed as follows: in the Faculty of Arts, 147; in the Faculty of Law, 32; in the School of Engineering, 6; and in the Faculty of Medicine, 248—that is, the medical students number more than one-half of all the students in attendance at the College. During the past session 13 ladies were in attendance. Of the total students 373 came, as might be expected, from Ulster. The only changes in the professoriate are in the Faculty of Medicine, in which Dr. John W. Byers has been appointed Professor of Midwifery and Gynæcology in place of Dr. R. F. Dill, deceased; Dr. Johnson Symington, Professor of Anatomy, in the place of Dr. Redfern, resigned; and, owing to the munificence of the Dunville family, a new Professorship of Physiology has been created, and to this chair Dr. W. H. Thompson has been elected. Dr. W. H. Barrett has resigned the Lectureship on Pathology, and in his place, during the summer session, Dr. W. Russell of Edinburgh was appointed to lecture. In April last a very fine new chemical laboratory was opened, and through the kindness of an old student, Mr. James Wilson, M.E., Old Forge, Belfast, a photographic studio has been erected in the quadrangle and placed in the care of the Professor of Chemistry. A pharmaceutical laboratory has also been fitted up during the year, and Dr. V. Fielden has been placed in charge of it under the superintendence of the Professor of Materia Medica. At the request of the President, the Lords of the Treasury have sanctioned the immediate commencement of a new building for a physiological and pathological laboratory, and it is contemplated to provide room in this new place for such a biological laboratory as Dr. Cunningham, the Professor of Natural History, has long wanted. Professor Symington has been appointed curator of the medical museum. It will thus be seen, as the President remarks, that the College has made a large advance during the year in the various scientific departments towards fully equipping itself with those facilities for practical work and teaching which are imperatively demanded in the present day. The President says that the Belfast Medical School is now in every respect singularly strong, and never probably in the history of the College was it so well fitted for its great mission. The work of the school, owing to the institution of new professorships and lectureships, has been specialised to an extent which must prove of the utmost importance to the promotion of medical science in the North of Ireland. The College library now contains 52 000 volumes, and a new catalogue is being prepared. As a result of the great bazaar held in May there will, with the subscriptions previously received, be about £8000 available for the establishment of the College Union. The conduct of the students during the year was admirable, and no student was charged before the College council with any offence.

*Queen's College, Cork.*

The annual report of the President for the session 1893-94 has been issued. The number of students on the books of the College during the session was 252, of whom twelve were non-matriculated. The number of students entered in the Faculty of Medicine was 195. The President draws attention to the necessity for a new chemical laboratory, and hopes that during the coming session the Government may be enabled to erect a building so much required by the growing demand for instruction in physical science. An extraordinary visitation was held on the 16th and 17th of May, a report of which appeared in THE LANCET at the time.

*Health of Ireland for June Quarter.*

The births during the quarter numbered 27,647, showing an annual rate of 24·0, and the deaths 21,378, or 18·6. The birth-rate for the quarter was 0·5 under the average rate for the corresponding quarter of the past ten years, and the death-rate 0·3 under the average. Measles, whooping-cough, and scarlet fever among children, and some pulmonary affections among the population generally, were prevalent in many districts, as also typhoid fever in a few localities; but measured by the statistics of mortality the state of the public health in Ireland last quarter was fairly satisfactory. A death from small-pox was recorded in Antrim union, being the first since the last quarter of 1891. Measles caused 472 deaths, or 210 in excess of the average; scarlet fever 149; typhus fever 76, or 14 under the average for the past five years; whooping-cough 262, or 42 below the average; and typhoid fever 189 deaths, or 41 above the average. Compared with the corresponding quarter of 1893, the returns of pauperism show an increase of 1089, or 2·7 per cent., in the average number of workhouse inmates on Saturdays during the quarter, and a decrease of 682, or 1·2 per cent., in the average number of persons receiving out-door relief.

*Bantry Workhouse Water-supply.*

At a recent meeting of the Bantry guardians a report was received from the city and county analyst on two samples of water submitted to him for examination. An analysis of the water from the men's side of the workhouse showed that "a large amount of nitrogenous organic matter was dissolved. The chlorides were high, and the fact that nitrates were present showed that the water was contaminated with sewage and therefore quite unfit for drinking purposes, and should not be used unless previously boiled." The examination of the well water for the women showed equally bad results, and it was apparent that both supplies were quite unfit for use, and could not be used without serious risk of spreading disease. In face of this evidence it will hardly be believed that the guardians took no action in the matter, the chairman remarking that they had enough of taxation. They will probably wait until they are forced by the Local Government Board to obtain a proper supply of water for the inmates of the workhouse.

*Objections to Vaccination.*

In the Northern Divisional Police-court last week Mr. Glynn was summoned for refusing to bring his child to the dispensary to have it vaccinated. He stated that he had conscientious objections to having his child vaccinated. He had been summoned before for this offence, but the presiding magistrate allowed the matter to stand, pending the report of the Royal Commission relating to this question. Mr. O'Donel said he could not have regard to Mr. Glynn's conscientious objection, which could not stand in the way as against the operation of the Vaccination Act, and fined him 10*s.*, and 10*s.* costs.

*Death from Hydrophobia.*

A young lad named McCarthy died lately in the Meath Hospital from hydrophobia contracted from a dog which bit him two months previously. He was bitten on the back of his hand, but thought nothing of it until a few days ago, when symptoms of the disease appeared.

*Charitable Bequests.*

By the will of the late Mr. Gervas Taylor the following sums have been left to medical charities:—Hospital for Incurables, £1000; Cork-street Fever Hospital, £2500; Mercers' Hospital, £1000; St. Vincent's Hospital, £1000; Mater Misericordiæ Hospital, £1000; National Eye and Ear Infirmary, £250; Coombe Lying-in Hospital, £1000; Adelaide Hospital, £5000; Meath Hospital, £5000; Sir P. Dun's Hospital, £2500; Convalescent Home, Stillorgan, £2500; Stewart Institution for Idiots, £2500; and the City of Dublin Hospital, £2500.

## RUSSIA.

(FROM OUR OWN CORRESPONDENT.)

*Proposed Medical School for Women in St. Petersburg.*

HITHERTO Russian women desirous of entering the medical profession have been compelled to seek their education in

foreign countries. It is now proposed to found a Female Medical Institute in St. Petersburg, where women will be able to pass through a full curriculum and receive a diploma to practice, under the title of "Zhenshtchina-Vratch," or "woman-doctor." The scheme of the Institute will come before the Imperial Council this autumn, and, if approved of, the Institute should not be long in getting under way. The St. Petersburg Town Council has promised to provide it with premises free of charge, and with clinical accommodation in the city hospitals. It is desired that the Institute should be endowed to such extent as to yield an annual income of 63,000 roubles (about £6500); two-thirds of such a sum are already promised, and it is hoped that the remainder may be made up by donations and the fees of students. The scheme proposes a curriculum of four years, followed by two years' practical work in obstetric hospitals and in special cliniques for diseases of women and children.

*Seasonal Prevalence of Zymotic Diseases in Russia.*

In the annual reports upon the health of the Russian Empire for the years 1888, 1889, and 1891[1] the monthly distribution of the principal zymotic diseases is shown in tabular form. The figures are not without interest. They are confessedly incomplete, but they are presumably drawn from the same sources in each year, and, as they amount in the aggregate to about 100,000 deaths from each of the principal diseases, they may with safety be used for drawing conclusions. Small-pox mortality was in each of the three years low in the summer months, falling to an absolute minimum in August, and high in the winter months, rising to a maximum in December or January. The curve of the disease, therefore, closely corresponded with that generally observed in England and other countries. Scarlet fever mortality was in each year low in the spring and high in the autumn, the minimum occurring in April or May, and the maximum in September or October. Diphtheria showed a similar curve, the mortality falling in April and May, and rising slightly later than that of scarlet fever to a maximum in November. This coincidence of diphtheria prevalence with the long and very damp Russian autumn is of significance. The curve of measles mortality showed a double rise, the first in the months of March, April, and May, the second in the months of November, December, and January. This occurred in each of the three years, and in each year the fall in the summer was to a lower point than that in February. Deaths from whooping-cough failed to show any very definite relation to season. Typhus fever mortality was low from June to September, and high from November to April, the absolute maximum occurring in each of the three years in March. The deaths from enteric fever were constantly low in June and July, and high in October, November, and December. Relapsing fever was generally more fatal in the winter and less so in the spring and summer. Dysentery and diarrhœal diseases showed a fall, almost to zero, in the winter months, a slight rise in June, and a sharp rise to a high maximum in July or August. In brief, the seasonal curves of the nine zymotic diseases named were almost exactly parallel with those observed for the same diseases in England and elsewhere.

*The Cholera Epidemic.*

Cholera is still prevalent in St. Petersburg. Since my last note a second rise has occurred in the daily numbers of cases and deaths. The records sank steadily until Aug. 4th–5th (Old Style), when only 8 fresh cases of cholera occurred, and the number under treatment had diminished to 107. From that date the figures began to rise again as steadily as they had sunk, and on Aug. 16th–17th there were 56 fresh cases, the total number under treatment having risen to 208. At present the epidemic is again declining; 15 fresh cases of cholera were admitted yesterday, and 116 persons remain in hospital. In the provinces cholera has spread widely in the past few weeks. Of the sixty governments in European Russia the names of thirty-five appear in the last two weekly reports upon the cholera epidemic. In many governments the figures are small, but in others they are high. In the week ending Aug. 6th there were over 1000 cases and over 500 deaths in each of the governments of Warsaw, Kielce, Radom, and Grodno. Most of the Polish governments and those adjoining are suffering severely from the disease.

St. Petersburg, Aug. 26th (Sept. 7th).

[1] The table is omitted in the report for 1890, the returns having been thought too imperfect.

## AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

*Sanatorium for Infectious Diseases at Melbourne.*

THE Health Act of Victoria enacts that hospital accommodation for cases of infectious disease is to be provided by the municipalities (who are the local boards of health), and that all cases of small-pox, cholera, typhus fever, yellow fever, or other virulent infective diseases must be isolated. Complaints have frequently been made as to the inadequacy of the provisions so far made for these purposes, and the Board of Health, with representatives of the municipalities concerned, recently inspected the sanatorium at Williamstown, to ascertain its condition. They found that it was eminently unsatisfactory. The grounds were undrained, the buildings flimsy and draughty, and the accommodation insufficient. The Board of Health then convened a meeting of delegates from the municipalities to decide what should be done. Dr. Gresswell, the medical inspector and acting chairman of the Board, suggested the advisability of utilizing a ship, anchored in the bay, as the most economical and safest arrangement for a hospital for the isolation of infectious diseases; but the delegates carried an unexpected resolution to the effect that as small-pox, cholera, and yellow fever are not endemic in Australia, the prevention of their introduction, and also the stamping of them out when introduced, should be a national undertaking, the funds for which should be provided by the Government and not by the municipalities.

*Hospital Appointments in Adelaide.*

The election of the medical staff affords an almost perennial source of scandal in most of the Australian hospitals, no matter what system is adopted. At the Adelaide Hospital the staff is appointed every three years by the board of management. Dr. A. A. Lendon, lecturer on clinical medicine at the Adelaide University, and one of the best known of the South Australian physicians, has been physician to the hospital for some years, and, as the board admit, has done his work most satisfactorily. At the election held recently he was rejected in favour of Dr. A. A. Hamilton, apparently on the ground that "their qualifications being equal" (Dr. Lendon is an M.D. Lond., Dr. Hamilton, M.B. Dub.) "it was to the advantage of the institution to make occasional changes in the staff." With the following comments made in the leading columns of the *South Australian Register* most people will probably agree. "The treatment meted out to Dr. Lendon has been exceptionally ungracious and invidious ..... and it is a poor reward for faithful services on the part of a medical man, of whose competency there is no doubt, to be told, 'It is true you have served us well, that you stand high in your profession, that you have every qualification for the office you have held, but there is someone else whom we think equally capable, therefore you must stand aside.'"

*The Chairmanship of the Board of Health, Victoria.*

Among the retrenchment arrangements of the Victorian Government is the transference of the chairman of the Board of Public Health to the vacant position of under-secretary, and the amalgamation, without increase of salary, of the position of chairman and medical inspector of the Board. The various municipalities, however, who elect the members of the Board have opposed this arrangement, maintaining that the Board should elect its own chairman, and that the medical inspector has quite sufficient work as it is. The Bill for making the change has passed the Legislative Assembly after much discussion, during which Dr. Gresswell, the medical inspector, was warmly eulogised for the excellent work he had done, while his high qualifications were universally admitted.

*Charitable Institutions in Victoria.*

The annual meetings of several of the charitable institutions in Melbourne have been recently held, and their unsatisfactory financial position has attracted attention. From the report of the Melbourne Hospital it appears that, although the expenditure was reduced by £2370, there is a debit balance for the year of about £2000, and the total indebtedness for maintenance is £14,721. The annual report of the Alfred Hospital disclosed a somewhat better state of things, inasmuch as there was no debit balance, but the managers have had to close several wards. All over the colony the hospitals are practically State charities, carried on with assistance from private benevolence. About 60 per cent. of their funds are supplied from the State, about 30 per cent.

by voluntary subscriptions, and about 5 per cent. by the municipalities. (The Melbourne hospitals receive nothing from this last source.) It is nearly four years since a Royal Commission on Charitable Institutions sent in a report, in which it advised that the charities should be supported by the various localities served. The colony was to be divided into charity districts, with a board for each district to superintend the local charities, and having power to levy a rate for their support, while a central board was to be appointed to have a general control over all the charities in the colony. No legislative action has yet been taken in the matter, but something will have to be done or the charities will drift into hopeless insolvency.

*The Medical Bill for New South Wales.*

The Bill for the registration of medical practitioners in New South Wales, which is so urgently needed, and which a short time ago seemed at last to have some chance of being passed, has again been shelved, and it looks as if it would be many years now before it gets on to the statutes.

*A Hydatid Cyst in the Sac of a Congenital Hernia.*

Mr. G. Elliott Smith, in a recent number of the *Australasian Medical Gazette*, describes an unusual condition found in a dissecting-room subject at the Sydney University. The funicular portion of the processus vaginalis was patent and contained a small, hard, spherical body, quite unattached. Its walls were very thick and arranged in concentric layers, enclosing a central cavity filled with yellowish, semi-translucent material. On the lateral aspect of the left side of the pelvis was a hard, calcareous mass, lying in the extra-peritoneal tissues. Its interior consisted of putty-like material mixed with the débris of daughter cysts. The body in the hernial sac was evidently an old hydatid cyst, which had probably been originally omental, had become pedunculated, and finally detached. Free cysts of this kind originating in this way have been described, but are exceedingly rare.

*Hysterectomy for Diffuse Sarcoma of the Uterine Mucous Membrane.*

At the last meeting of the Medical Society of Victoria Dr. P. W. D. Hooper read notes of a case which he diagnosed as early commencing malignant disease of the uterus. The symptoms were metrorrhagia, pain, and loss of weight and strength in a married woman of twenty-six years. The cervix was marked with a meshwork of pale striæ and the endometrium was thickened and velvety. Portions of this, removed and examined microscopically, were pronounced to present appearances of sarcoma. Vaginal hysterectomy was accordingly performed. The cavity of the uterus, when removed, was found to be lined with a soft, grey tissue, quite unlike the ordinary endometrium, sections of which showed great infiltration, with round cells larger and more irregular than, and differently disposed to, those seen in inflammatory affections. The patient had been frequently curetted previously, and Dr. Hooper raised the question as to whether this had anything to do with originating the growth.

# Obituary.

## HERMANN LUDWIG VON HELMHOLTZ.

PROFESSOR HERMANN LUDWIG FERDINAND VON HELMHOLTZ died at Charlottenburg, near Berlin, at noon on Saturday, the 8th inst. He was born on the last day of August, 1821, at Potsdam, and had therefore just completed his seventy-third year. His father was a Professor at the Gymnasium of Potsdam, and the lad studied medicine in Berlin, becoming in due course army surgeon in 1843. In 1848 he was appointed assistant in the Anatomical Museum of Berlin and in the following year accepted the post of Extraordinary and in 1852 that of Ordinary Professor of Physiology at Königsberg. In 1856 he removed to Bonn, in 1859 was transferred to Heidelberg, and in 1871 was made Professor of Physics at Berlin, an appointment that he held till quite recently. He was President of the Imperial Technical Institute. In 1883 he was ennobled by the Emperor, and in 1891 his seventieth birthday was celebrated with great enthusiasm, and with the expression of sentiments of regard and esteem by the *savants* not of Germany alone but of the whole civilised world.

Professor Helmholtz represented the very best side of the German character. With profound knowledge and unwearied research he united great originality of intellect and a practical turn of mind that placed him at the head of the scientific world on the Continent. As far back as 1847, when only twenty-six years of age, he published a small volume on the Conservation of Force, which made a deep impression on the face of science. In 1854 the subject still engaged his attention, when he published an essay on the Alternation of the Forces of Nature, and subsequently others on the Movement of Fluids, on Various Kinds of Sound-vibrations, on Sound Colours, and on Musical Temperament. He also discussed problems connected with the galvanic current and electro-dynamics, in the course of which he indicated his adhesion to the theory of action through space, supported by Faraday and by Maxwell. The principal work of his life was, however, devoted to physiological acoustics and physiological optics. In 1851 he made a discovery which revolutionised ophthalmic surgery—namely, that it was possible by reflecting light from a plate of glass into the interior of an eye to enable an observer situated behind the glass and looking through it to see the details of the fundus of another person. It was but a step to make a silvered mirror with a hole in the centre, and in the course of a year or two the ophthalmoscope in its present form was in the hands of every ophthalmologist. He immediately turned his attention to the study of colour and in 1852 published his paper on Compound Colours, in which he supported the well-known theory of Young. In 1853 he showed by experiments the changes that take place in the human eye in the act of accommodation, which was followed in 1855 by an article on Human Vision, and in the same year by another on the Sensitiveness of the Human Retina for the extra-spectral Rays of Sunlight. We have recently had occasion to review the last part of the second edition of his "Handbook of Physiological Optics," the original edition of which was published between the years 1859 and 1860, and which we hope will not be left in an unfinished state. Nor were his investigations confined to these subjects alone. He advanced some highly ingenious speculations on the development of heat during muscular action in *Müller's Archiv* in 1848, writing on the Rapidity of Transmission of Nervous Impulses. How wide and yet thorough was his acquaintance with almost every branch of science may be imagined from the fact that he contributed to the Royal Society over a hundred papers upon physiological, physical, chemical, mathematical, and mechanical questions of paramount importance; nor was it long before the worth, merit, and importance of these communications were recognised by his English *confrères*, for it was in 1873 that the council of the Royal Society awarded him the Copley medal. Following in the wake of Schleiden, he did much to popularise knowledge, and published in 1884 an excellent series of lectures delivered with that object in view. He discussed the sensations from a geometrical point of view, and from 1877 was co-editor with Wiedemann of Poggendorff's Annalen. His epitaph may well be "Nihil tetigit quod non ornavit."

## THOMAS ODELL, M.R.C.S. ENG., L.S.A.

MR. THOMAS ODELL, who died at Hertford on Aug. 23rd, was born at Newport Pagnel in 1816. After receiving a sound preliminary education at Mr. Burn's academy he was articled to his cousin, the late Dr. Goodwin, of that town. He then entered as a student of St. Bartholomew's Hospital, and, after having qualified, was for a time assistant to his old friend, the late Dr. J. Neill of Aldersgate-street. On the death of Mr. Shillitoe of Hertford, Mr. Odell purchased his practice and soon became widely known and appreciated for his kindness and attention to his patients, and he was much beloved by the poor of the districts of which he was Poor-law medical officer. For twenty-four years he held the appointment of honorary medical officer to the Hertford Infirmary and upon his retirement received a very handsome testimonial from the governors in appreciation of his valuable services. He was elected one of the consulting officers to the institution. For the last few years he suffered from paralysis agitans and on this account was obliged to retire from active practice, but he retained his interest in all the concerns of his profession to the last. Becoming gradually weaker, he passed away peacefully on the morning of Aug. 23rd, full of years and honour.

## FRANCIS WILLIAM INNES, C.B., M.D. EDIN., L.R.C.S. EDIN.

(OF NAPIER, NEW ZEALAND).

OUR New Zealand correspondent writes:—"The death of Dr. Francis William Innes of Napier may be looked upon as

another instance of a member of the medical profession sacrificing his life in the performance of duty. He was a most genial, courageous man, and he will be sadly missed by all with whom he has been associated both professionally and from a social point of view. He was considerate towards others, but careless of himself. The manner of his death shows this only too clearly; although shivering with influenza, he did his town and country work as usual, but, an attack of pneumonia ensuing, it proved fatal. Dr. Innes (who was at one time in the Army Medical Service) was singularly successful in his treatment of little children, who, attracted by his genial manner, seemed at once to look upon him more as a friend than as a physician. What higher compliment could be paid him by his little patients? He not only had good ability, a clear head, and a large stock of common sense, but, in a rare degree, he was earnest in the pursuit of whatever he undertook. Often far from well, he was always cheerful and hopeful. Such a man could not fail to meet with approval and to make many friends. He always showed scrupulous regard for the rights and feelings of his *confrères*, and he will be missed by many, both rich as well as poor."

DEATHS OF FOREIGN MEDICAL MEN.—The deaths of the following members of the medical profession abroad are announced:—Dr. A. Finkelstein, Assistant Medical Officer in the Moabit Hospital, Berlin, from septic infection, at the age of thirty-one.—Dr. Adolf Messner, a well-known Munich surgeon.—Dr. Leo Warnots, Professor of Operative Surgery in the University of Brussels, at Wiesbaden, aged thirty-eight.—Dr. Stolnikoff, Professor of Special Pathology and Therapeutics in Warsaw.—Dr. Danielssen, of Bergen.—Dr. A. B. Miles, Professor of Surgery in the Tulane University, New Orleans.

## THE EIGHTH INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY.

THE Congress, which opened with a considerable measure of practical promise, has hardly fulfilled its auguries. Some of the minor arrangements for delegates were good, though it must be confessed that this commendation does not cover the accommodation made for the foreign press; but whether the Congress as a whole is going to prove of any practical value is a different matter, and in many respects the organisation left much to seek.

"To me," writes a valued correspondent, "it seems undoubted that very great reforms will be necessary in the organisation of future Congresses. Experience proves that twenty-six Sections are not workable. This means so great a subdivision of Sections and of subjects that many delegates found themselves called upon to be in three or four different Sections at one and the same time; whilst others, who had no particular business, gravitated towards the Section where the most notable personages were to speak or the subject of the greatest general interest was to be discussed. The members who, discarding these attractions, went to their special Sections as often as not found that many of the papers announced were not to be read. When the authors were called upon they either were not at the Congress at all or else were reading some other paper in some other Section or had been utterly unable to find their way to the proper place at the proper time. The organising committee ingeniously contrived to mark with numbers and huge letters the various blocks of buildings in which the different Sections were located. But there were not only the twenty-six Sections, there were also six different localities occupied by the exhibition and the numerous offices. To learn the topography of such vast installations was no easy matter; and the distances, even when the right road was ascertained, from one Section to another were considerable. Thus much time was lost in wandering about from place to place. As a consequence some of the most important Sections were very badly attended."

On Wednesday morning, Sept. 5th, only twenty persons were found in the Section devoted to State Hygiene, while the Section dealing with Sport was shut up, no one having put in an appearance. At 10.30 A.M. the Section of Tropical Diseases was already closed, and in the Section dealing with the Hygiene of Railways and Navigation there were only eighteen members present. On Saturday morning, when the Sections should have been thronged by eager attendants anxious to complete their programme before the closure of the Congress, many Sections were closed. Some of the rooms were even locked, and an attendant was placed on guard to inform inquirers that there was no meeting to be held. In other instances the door was open, but the room void. Thus the Railways and Navigation Section did not meet, nor the Section of Sports. At the Hygiene of Towns Section there were but twelve persons, and at the Prophylaxis Section twenty-one. In the Hygiene of Schools Section, a number of ladies being present, the total amounted to an attendance of forty persons. This, however, was quite exceptional. Even an interesting debate on the Contagious Diseases Act and kindred subjects did not draw more than thirty-six persons to the State Hygiene Section.

But the worst disappointment of all was the small attendance at the plenary meeting held in the Town Council Chamber at three o'clock on Saturday afternoon. Professor Fodor was in the chair, and he explained that without discussion he would seek to ascertain whether there was a majority of those present in favour of the resolutions carried in the different Sections. Most of these were printed in four languages, but others were written only, and these gave great trouble.

The first resolution was proposed by Dr. A. J. Martin, Sanitary Inspector-General of Paris, and seconded by Mr. Adolphe Smith of London, and was to the effect that, as the law controlled the manufacture of boilers, to see that explosions did not take place, there should be a State control and a State mark placed on disinfecting stoves. It was as necessary that stoves should disinfect as that boilers should not burst. This resolution, carried in the Section, was unanimously confirmed by the plenary meeting. Then a long resolution on diphtheria was read and ultimately adopted. It proposed obligatory declaration, isolation, and complete disinfection of premises, of linen during the progress of disease, and of the carriage used for the transport of the sick; that children related to a sick child should be kept from school, and if the disease broke out in a school then all the children should be placed under medical supervision; and, finally, that bacteriological experiments should be made to diagnose the disease. A very lengthy resolution on cholera, submitted by Dr. Kuborn of Liège, was referred back as too complicated, and later a resolution approving the decisions of the Dresden International Sanitary Conference was carried.

Miss Florence Nightingale's resolution, as carried in the Section of Tropical Diseases, was confirmed by acclamation. "The Tropical Section of the Congress," it ran, "having had under consideration a paper by Miss Nightingale on Village Sanitation in India, are of opinion that the subject is a very important one, affecting as it does the health and prosperity of so many millions of industrious and law-abiding people. They appreciate the efforts that have been made in the different provinces by the Government of India to promote this work; and, looking to the special conditions of the village communities of India, they think that the best results will be obtained through the coöperation of the people themselves if they are instructed in the primary rules of health. The

most pressing needs appear to be a wholesome water-supply and the removal of refuse and other insanitary matter from the neighbourhood of dwelling-houses."

In the Section of Industrial and Agricultural Hygiene Dr. Axmann's resolution was: "Considering that 60 per cent. of the accidents happening in factories and workplaces are caused by the use of alcoholic drinks, the attention of the Government ought to be called to this fact." Dr. Axmann proposed that the price of drinks, such as beer, which are less harmful, should be lowered as far as possible, whilst that of strong intoxicants should be raised high enough to render their consumption more difficult." Dr. Kraft proposed: "That the Governments are requested to devote more attention to the condition of the workmen engaged in small industries." Both resolutions were confirmed by the general assembly.

In the Section of School Hygiene a resolution to the following effect was put to the meeting:—"Considering that the international comparison of infant mortality is rendered very difficult, and sometimes absolutely impossible, in consequence of the different statistical methods employed, the Section consider it desirable that at least the main data of infant mortality should be published by all the States in a uniform manner. For this purpose the Section propose that the Congress in plenary assembly nominate a committee of six physicians for children and six demographists to prepare reports and resolutions for the next Congress. As members of this committee they recommend the following medical men: Mr. H. Abbott, M.A., F.R.C.S., of Leeds; Professor Dr. A. Epstein of Prague; Dr. Julius Eröss, Lecturer, of Budapest; Alfons Monteuscfo of Naples; and Dr. L. Pfeiffer of Weimar." The resolution was carried, and also Professor Hüppe's resolutions that: "1. In order to promote scientific researches and the teaching of hygiene all high schools should be provided with properly endowed professorships of hygiene, should have sufficiently endowed institutes and laboratories, and that hygiene should be an obligatory subject in examinations for medical degrees. 2. That for the propagation of hygienic knowledge in all branches of instruction it is necessary to create medical officers for schools, and that these medical officers should be required to give instruction in hygiene."

Resolutions in favour of teaching hygiene in training colleges, one advocating the State monopoly of alcohol, among others, were declared carried, though in the confusion and absence of translations it was at times not possible to ascertain what they were about. The plenary sitting, at first attended by only 120 persons, gradually dwindled away. The facts that the resolutions could not be discussed and that some important meetings and excursions were taking place elsewhere robbed this general assembly of much of its importance. The whole question of plenary meetings and their duty towards the resolutions sent up to them by the various Sections will have to be carefully considered in the future. It seems preposterous that out of 2500 members barely more than 100 were present to confirm, approve, or reject the work of the Sections. Surgeon-General Billings made a vigorous protest against the wholesale adoption by an unrepresentative assembly of imperfectly understood resolutions, and his action was generally approved.

M. Treille, Inspector-General in the French Sanitary Services and Chief Sanitary Adviser to the French Colonial Minister, announced to the Section of Bacteriology that Dr. Yersin, of the Sanitary Service, had been recently sent to Hong-Kong to study the outbreak of bubonic plague there and to make special research into its possible bacteriological cause. Dr. Yersin, said M. Treille, had succeeded in isolating a bacillus which, upon cultivation, yielded abundant colonies; and he passed round among the members of the Section photographs of the results of bacteriological work on the subject undertaken at the laboratory of the Pasteur Institute. He claimed that this bacteriological work had confirmed the accuracy of Dr. Yersin's researches.

The committee appointed by the Congress of 1891 to frame a report on 50,000 children seen in schools as to their physical and mental condition found that the methods employed in observation and description of children now make it possible to supply much new and valuable information bearing on education and the care of boys and girls. The scientific principles, which rendered it possible to use physical signs to indicate mental conditions, may also be employed for the improvement of the theory and practice of education, especially in cases of those feebly gifted mentally. The committee urged that such inquiries should be conducted in other countries than Great Britain, and they offer assistance in organising such investigation.

Dr. Francis Warner gave a demonstration before the Congress of his methods of observing the physical conditions and the expression of nervous states in school children, which attracted much attention. A number of school children being present, Dr. Warner looked at each child in turn; holding a coin before the child, he told him to look at it, and thus fixed the child's head and prevented him from looking at the observer. A full profile and full-face view of the child was thus obtained. The points as to bodily condition observed were: the head as to size, form, and proportions, the external ears and their parts, the eye openings, the nose, the mouth and jaw, and lastly the palate. As indications of nerve irregularities in some children, in the forehead horizontal creases caused by overaction of the frontal muscles and vertical creases caused by corrugator muscles are signs common in imbeciles. Other children showed the orbicularis oculi muscles to be relaxed, leading to fulness and swelling under the eyes, indicating fatigue. The hands when held out in front of the child were in some cases drooped at the wrist, with fingers bent, indicating weakness, or drooped at the wrist, with all the digits over-extended at the metacarpo-phalangeal joints, indicating a nervous or choreic condition. When the hands were held out in front, in the weak children the spine bent forwards in the lumbar region (lordosis), the upper part being thrown back. In his remarks Dr. Warner explained that the hands in the normal child are held on a level with the shoulder, the arms being parallel, and all parts of the hand being in the same plane. A published list of 103 signs seen in this inquiry was presented to the Congress.

The Hungarian members of the Congress manifested much interest in the school inquiry and did Dr. Warner and Dr. Shuttleworth—whose paper upon the educational care of feeble-minded children will be found in this issue under the Section of the Hygiene of Schools—the honour of electing them vice-presidents of the Section.

## THE CLOSING OF THE CONGRESS.

(FROM A SPECIAL CORRESPONDENT.)

Budapest, Sept. 9th.

THE proceedings of the International Congress of Hygiene and Demography were brought to a close this (Sunday) morning in the great hall of the Redoubt, where the opening ceremony had taken place. There were, of course, not so many delegates present, and the gorgeous gala uniforms were not so plentiful. Herr Charles Hieronymi, Minister

of the Interior, presided. He called upon M. Bertillon of Paris to read the report of the Permanent Committee. From this it appeared that this Committee, which serves as a connecting link between the Congresses, now recognised the necessity of having a constitution. A few simple rules had been drawn up, the most important being that future Congresses are to be attended only by persons who occupy themselves with questions of hygiene, and the Committee will have the right to refuse admittance to unsuitable persons. The Permanent Committee consists of twenty-four hygienists and twelve demographists. Germany is represented on the committee by Messrs. Andreas Mayor, Pistor, Rubner, Boekh, George Mayr, and Scheel; the latter two on behalf of demography. The United States are represented by Surgeon-General Billings for hygiene and Mr. Walcott and General Walker for demography; Belgium by Dr. Koborn, hygiene, and Dr. Janssens, demography; Great Britain by Professor Corfield, Sir Douglas Galton, and Dr. Vivian Poore for hygiene, and Dr. Newsholme for demography; Hungary by Professors Fodor and C. Muller for hygiene, and Dr. Körösi for demography; Italy by Drs. Pio Fon and Pagliani for hygiene, and Dr. Bodio for demography. Holland is represented by Dr. Overbeek de Meyer and Dr. Ruysh; Roumania by Dr. Felix; and Russia by MM. Erisman and Tzolnitski, the latter for demography. The Scandinavian people are represented by Drs. Almquist from Sweden and Kinder for demography from Norway. Finally, Switzerland is represented by M. Guillaume, the well-known demographist. Professor Muller, assisted by M. Bertillon, are to act as the secretaries of this Permanent Committee. The Congress having approved of all these names, the Committee is now duly constituted.

The next question was the place of meeting for the ensuing Congress. Dr. Billings had promised a cordial reception in America, but so many people had recently been to the Chicago Exhibition that it would be difficult to proceed in numbers again to America. As the first International Congress of Hygiene was held in Belgium, and as in three years a quarter of a century will have elapsed since this first Congress was convoked, a desire had been expressed to celebrate the occasion by meeting again in the same country. Unfortunately, the Cabinet Ministers being away from Brussels at this season, it has not been possible to obtain a reliable invitation; but a firm proposal had come from Spain, and this was enthusiastically accepted.

Dr. Simeno, a Spanish delegate, expressed his gratification that the Congress had selected his country for its next meeting and was certain that the Government of Spain and the town of Madrid would do their best to make the delegates welcome.

The Secretary-General, Dr. Muller, now read out the names of the authors of all the resolutions that had been carried at the general meeting held on Saturday afternoon. The President, asking if all were satisfied, and meeting with no opposition, declared the resolutions duly carried by the Congress as a whole. It must here be remarked that so few persons had attended the general meeting held on the former day that the greater part of the audience did not know what these resolutions were about. One exception, however, was made. The Secretary-General read out the text of the resolution on diphtheria (as already given), and no opposition was made to it. This done, the usual complimentary speeches followed, and the principal Burgomaster of Budapest testified to his sense of the honour done to his town by so many distinguished visitors. Professor Corfield read a letter from the Prince of Wales in which His Royal Highness expressed his desire that allusion should be made to his interest in the cause of hygiene and demography, and his satisfaction that the Emperor had allowed his name to be associated with a similar meeting to that over which the Prince of Wales had presided three years ago in London. Dr. Corfield then proceeded to enthusiastically praise the cordiality and hospitality of the Hungarian people. Dr. Scheel spoke in the name of Germany. Brigade-Surgeon Lieutenant-Colonel Lane Notter spoke on behalf of Great Britain and hoped that the Congresses would maintain that high scientific character which teaches that the noblest object is the public good. Dr. Silva spoke for the Argentine Republic; Dr. Jurasehek for Austria. Dr. Kuborn made an eloquent speech on behalf of Belgium. He alluded to the wide streets and the pure air and water of Budapest, and to the fact that the death-rate had fallen from 44 to 24 per 1000 of the population. He was glad to see Hungary progress in sanitation, for hygiene, working hand in hand with political economy, would bring about the happiness of the masses. Dr. Miranda Azevedo from Brazil, Dr. Kinyoun from the United States, and Dr. Champmesse from France next spoke. The latter declared that the Congress had taken a great step towards the cure and prevention of diphtheria. Dr. Landvai spoke very eloquently for the Hungarian provincial districts; Dr. Pagliani was enthusiastic on behalf of the Italians, and Dr. Csuboi Jino was quiet and reserved on behalf of Japan. Dr. Rapcswoski from Russia, Dr. Schmidt from Switzerland and Heyreddin Bey from Turkey having addressed the meeting, the chairman, Herr Hieronymi, rose to close the Congress.

Herr Hieronymi eloquently urged that words spoken had more effect than words written. Those who had participated in the discussions on cholera and diphtheria would carry away a lasting impression. The Permanent Committee had made proposals that would render future Congresses even more useful. He expressed his thanks to the masters of science who had sacrificed a part of their holidays to work at the Congress; to the foreign Governments and to foreign societies for sending delegates; to the Emperor and King, who had been the august protector of the Congress; and to the Archduke Karl Ludwig, who had opened the proceedings.

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(FROM OUR SPECIAL CORRESPONDENTS.)

## THE SECTIONS.

### SECTION OF MILITARY HYGIENE.

THE chief subject of discussion in this Section has been the possibility of applying antiseptic principles in the dressing of wounds on the battlefield.

*Antiseptics in the Field.*

The well-known Hungarian surgeon and army medical officer, Ladislaus Farkas—a pupil of Billroth—declared that in practice we must renounce all hope of supplying the first dressing of wounds on the battlefield in an irreproachable and scientific manner. This is not possible, because the conditions of a field of battle are in no wise suitable. Then the first dressing is not definitive. It is purely a temporary matter, because the consequences of the wounds inflicted by projectiles do not depend on the first dressing. The speaker went on to urge the necessity of procuring for medical men on the field a very large supply of lint and other dressing material; but these should consist in a great measure of small packets suitable for immediate application to gunshot wounds, which are by far the most numerous. Sufficient care is not always taken to secure an ample supply and the means of renewing that supply very rapidly. All ambulance waggons should be supplied with an apparatus to sterilise all the material used in the dressing of wounds on the field of battle. It is only when there are no more sterilised bandages available that others may be employed; but to prevent this we should see in times of peace that adequate stores are prepared. Then lessons should be given in a simple manner so as to be readily understood by uneducated soldiers, teaching them to understand that they should avoid as far as possible touching a wound and that they should not disturb the coagulated blood on and about the wound; that they should not wash the wound with water and should not touch the dressing placed on the wound.

Dr. Manó Wein of Budapest thought that it sufficed if bandages were disinfected in washing, and that it was not necessary to use antiseptics on the battlefield. The dressing, which should be done as far as possible by medical officers, has only for its object to permit the wounded soldier to be removed. Nothing more than this should be attempted on the field of battle.

Dr. R. B. Macpherson of Glasgow thought that with the perfection of weapons we might anticipate a much greater number of wounded in the next campaign. If these numerous future victims are to receive the benefits of aseptic treatment not only surgeons but bearer companies should be thoroughly trained in the practice of asepsis, so that if necessary they may be able to do the first dressing. They could relieve the surgeons of the care of the slighter cases. All alike must be taught the duty of scrupulous cleanliness, especially of the nails of the hand. The facility of carrying bichloride tabloids of definite strength should render subsequent antiseptic soaking of the hands easy. This should always be done before going into action. The wearing of sleeves and

a short apron of rubber cloth which can constantly be washed with antiseptics should be encouraged and is quite possible on the field of battle. All instruments, of course, should be of the aseptic type and constantly soaked in a 5 per cent. carbolic solution. Dr. Macpherson thought bichloride of mercury formed the most convenient antiseptic for dressings, and such bandages are carried now by soldiers, but there should be field panniers with larger dressings for shell wounds &c. Surgeons might carry a dredger of iodoform to powder wounds. As the carriage and use of lotions on the field are not practicable, surgeons could have collapsible tubes containing an antiseptic ointment, with which the fingers and instruments could be smeared. With such precautions the danger of septic poisoning could, in a great measure, be reduced. If these first precautions are followed by the systematic and early evacuation of cases showing a septic tendency there can be no doubt that aseptic surgery on the field will be a success, and that the next European war will show at least a great reduction in the mortality from preventable causes.

### SECTION OF STATE HYGIENE.

This, though so important a Section, was very sparsely attended. On Wednesday I could only count twenty persons present. Dr. J. Crocq of Brussels had been speaking on the virtue of gratuitous medical consultations if given to persons who were really poor. The local authorities, he held, ought to be able to certify as to the genuine poverty of the persons asking for medical relief. Medical associations should make the due observation of this principle one of the objects of their organisations.

#### *Cremation of Bodies and Organic Refuse.*

Several speeches were delivered in this Section in favour of cremation, and also in favour of burning town refuse. One speaker advocated the distilling of sewage. In respect to cremation, Dr. Jules Félix, likewise of Brussels, suggested a compromise. Personally he was in favour of cremation and had made his will to that effect. Pending such time as cremation should become the universal practice what was to be done with corpses that often had to be buried in soil that did not favour decomposition? Wooden and metal coffins retarded decomposition and allowed injurious gases &c. to escape. In Germany, Switzerland, and Belgium what is called "tachyphage" was becoming popular. This consists of coffins made of artificial and moulded stone. According to the experiments of M. Bergé, Professor of the University and Director of the Laboratory at Brussels, coffins in "tachyphage" do not allow the escape of any liquids or gases. The conveying of corpses in coffins through the streets can occasion no danger. The mineral and alkaline materials with which this artificial stone is made, once in contact with the moisture of the soil, slowly dissolve and have a disinfecting and reabsorbing action on the body, which facilitates its rapid decomposition. For crypts and vaults an outer coating of indestructible artificial stone can be employed, while the inner coating helps to decompose the body. With coffins of this description cemeteries might be rendered wholesome places.

Dr. Vivian Poore, Honorary President of the Section, said that they had listened to a series of papers, all of which advocated the burning of organic refuse. One set of papers had referred to the refuse of houses and streets, and another set had reference to the cremation of the dead. These methods of "purification by fire" all involved a dissipation of energy, and although they might be necessary in places where population was greatly concentrated it behoved all of us to recognise that they were of the nature of a *pis aller* and were not really scientific. He believed that the city which burnt its organic refuse and its dead and allowed the land immediately surrounding it to go out of cultivation for lack of nourishment was doomed. Ancient Rome imported its food, burnt its dead, turned its refuse into the Tiber, allowed the Campagna to go out of cultivation, and consequently became too unwholesome for residence and lost her supremacy for many centuries. Hygienists must look to the facts of history as well as to the scarcely proved novelties of the laboratories of to-day, many of which were mere misleading ephemera. The only safe and economic use of organic matter was to nourish the soil and increase its fertility, and his objection to cremation was on purely scientific grounds, and he firmly believed that the cremationists were plunging again into the Dark Ages. One must remember that there was such a thing as scientific burial. What was scientific burial? (1) the burial of the body in the upper layers of the soil, which was full of animal and microbial life; and (2) the planting of the spot where the burial had taken place. If this was done the spot could be used again after an interval, and the same ground might be used over and over again. As to cost, he would state that in Essex in 1893 an acre of land sold for less than the price of a ton of coals, which were £2 a ton in consequence of a strike. As to the æsthetic side of the question, a well-managed cemetery produced flowers and trees which freshened the air, while a furnace merely fouled it. No epidemic had ever been absolutely traced to a cemetery (not even to the mismanaged and abominable cemeteries of to-day), and it was most important that an international congress should not take part in misinforming the world. Burial was safer, better, cheaper, and quicker than cremation. Cremation might be necessary, but it was clearly not a scientific method of disposing of the dead.

### SECTION OF HYGIENE OF SCHOOLS.

Dr. Shuttleworth, late Medical Superintendent of the Royal Albert Asylum, Lancaster, read a paper, supplementary to the report of the Congress Committee on Children, on the—

#### *Educational Care of Children feebly gifted mentally.*

Referring to the statistics of mentally abnormal children, Dr. Shuttleworth stated that it had been ascertained by an examination of 50,000 children that no less than 1·6 per cent. needed special care, and that the scientific principles used in the investigation furnished in this matter some serviceable indications. 1. Children with developmental defects were largely the produce of physiologically ill-assorted unions and pointed to the necessity of the incorporation of a knowledge of hygiene with our educational system; but much might be done for developmental defects by hygienic surroundings and appropriate exercises. In regard to cranial abnormality expressed as microcephaly he did not believe in the surgical procedures lately in vogue for allowing the brain to grow by excision of strips from the skull, but rather in suitable sensorial training, which would itself tend to increase the volume of the brain, as in a case carefully recorded by the elder Séguin. 2. Of children with "abnormal nerve signs" (nerves out of order) there were three principal groups. First, the inert type, slow in reaction, who required to be stimulated by bean bags thrown at them, which they gradually learned to catch and return; secondly, there was the choreic type, whose irregular (athetotic) movements yielded to specially adapted drill; and, thirdly, there were the children with overacting nervous system, those with twitches, for whom there was nothing better than systematic manual training, and especially occupation in the open air. For such, a garden attached to the school would be serviceable, in which they might work. Low nutrition (in the sense used in the report) did not necessarily imply want of food, but depended more on original constitutional defect. No less than 3·3 per cent. of the children in the Poor-law residential schools suffered from low nutrition, though well fed. Epileptic children were really more numerous than the figures in the report showed. Many children were kept from school altogether because they were subject to fits, and it was urged that special provision should be made for such in residential schools separate from the Board schools, where, if possible, they might have scope for bodily exercise and suitable employment as well as lessons. The class of morally exceptionable children also required separate treatment: they were hurtful to their ordinary schoolfellows and even in the special classes established in London gave much trouble. The discipline of a reformatory or of a training-ship was often practically the best for such. A brief account of what had been done on the Continent and in England for the advancement of feebly gifted children closed the paper. In 1881 *Hülfsklassen*—i.e., classes auxiliary to the ordinary school system—were established at Brunswick and are now found doing useful work in most of the more important cities of Germany. In Scandinavia, too, such classes had for many years existed in connexion with the school boards of Christiania and Bergen; and in Denmark Dr. Keller had established an admirable system of institutions for backward and feebly gifted children, as well as for idiots and epileptics. In 1892, following the recommendations of a Royal Commission which had in 1889 reported in favour of feeble-minded children being separately and specially instructed, the London School Board established separate classes for "children who by reason of physical or mental defects could not be properly taught in the ordinary standards," and of such centres there are now fourteen, with an aggregate attendance of about 350.

The success of these had been such as to warrant their general extension; but, of course, everything depended upon the efficiency of the teachers, who required to be specially trained not only in the Kindergarten system but also in the physiological principles upon which the inquiry of the committee had been based, in order to fit them for their difficult duties.

Subsequently Dr. Shuttleworth read for Dr. Fletcher Beach a paper on the Defects and Mental Diseases of Children.

Dr. Shuttleworth's paper was discussed by, amongst others, Dr. Cunningham of Cambridge, who laid stress on the desirability of looking after the teeth of school children.

*Schools and Epidemic Diseases.*

Professor Albert Palmberg of Helsingfors, Finland, reported on schools and epidemic diseases. He showed several tables relating to measles and scarlet fever epidemics at Helsingfors, of which the following are of peculiar interest:—

TABLE I.—*Epidemic of Measles from Jan. 1st to June 1st, 1891. Observations: All are day-schools. Population of the town, 64,093.*

| Schools. | Number of schools. | Number of scholars. | Cases of measles in scholars. | Percentage of measles in scholars. | |
|---|---|---|---|---|---|
| National schools for small children | 50 | 1866 | 261 | 14·0 | 13·1 |
| Primary educational schools | 13 | 605 | 64 | 10·6 | |
| National schools, second degree | 68 | 2381 | 73 | 3·1 | 2·6 |
| Lyceums | 16 | 2522 | 54 | 2·1 | |
| Total | 147 | 7374 | 452 | 6·1 | |

TABLE II.—*Epidemic of Measles in Schools in Helsingfors in the school year from Sept. 1st, 1892, to June 1st, 1893. Total population, 67,179.*

| Schools. | Number of schools. | Number of scholars. | Cases of measles in scholars. | Percentage of measles in scholars. | |
|---|---|---|---|---|---|
| National schools, first degree | 61 | 1985 | 213 | 10·7 | 10·6 |
| Primary educational schools | 14 | 651 | 65 | 10·0 | |
| National schools, second degree | 72 | 2824 | 62 | 2·2 | 3·4 |
| Lyceums | 16 | 2866 | 132 | 4·6 | |
| Total | 163 | 8326 | 472 | 5·7 | |

TABLE III.—*Measles in the same Schools (Table II.) according to Age.*

| Years. | Cases of measles. | Percentage. |
|---|---|---|
| Five to ten years | 355 | 75·2 |
| Eleven to fifteen years | 100 | 21·1 |
| Sixteen to twenty years | 17 | 3·7 |
| Total | 472 | 100 |

TABLE IV.—*Measles in Scholars in proportion to all Cases of Measles in the Town.*

| Educational term. | All cases of measles. | Measles in scholars. | Percentage of measles in scholars. |
|---|---|---|---|
| Jan. 15th to June 1st, 1891 | 1138 | 452 | 39·7 |
| Sept. 1st to Dec. 20th, 1892 | 836 | 328 | 39·0 |
| Jan. 15th to June 1st, 1893 | 403 | 144 | 35·7 |
| Total | 2377 | 927 | 38·8 |

TABLE V.—*Scarlet Fever in Schools in Helsingfors in the School Year from Sept. 1st, 1891, to June 1st, 1892. Population of the town, 65,136.*

| Schools. | Number of schools. | Number of scholars. | Cases of schools with scarlet fever. | Percentage of scarlet fever in scholars. | |
|---|---|---|---|---|---|
| National schools, first degree | 53 | 1908 | 40 | 2·09 | 1·95 |
| Primary educational schools | 13 | 605 | 9 | 1·49 | |
| National schools, second degree | 70 | 2658 | 13 | 0·48 | 0·85 |
| Lyceums | 16 | 2522 | 31 | 1·23 | |
| Total | 152 | 7693 | 93 | 1·22 | |

TABLE VI.—*Scarlet Fever in the above Schools according to Age. (Epidemic, 1891, 1892, 1893.)*

| Year. | Cases of scarlet fever. | Percentage. |
|---|---|---|
| Five to ten years | 80 | 65·5 |
| Eleven to fifteen years | 41 | 33·6 |
| Sixteen to twenty years | 1 | 0·9 |
| Total | 122 | 100 |

TABLE VII.—*Scarlet Fever in Scholars in proportion to the Total Incidence in the Towns.*

| Educational term. | Total cases of scarlet fever. | Scarlet fever in scholars. | Per-centage. |
|---|---|---|---|
| Sept. 1st to Dec. 20th, 1891 | 262 | 81 | 30·9 |
| Jan. 15th to June 1st, 1892 | 42 | 12 | 28·6 |
| Sept. 1st, 1892, to June 1st, 1893 | 74 | 29 | 39·2 |
| Total | 378 | 122 | 34·9 |

TABLE VIII.—*Scholars infected at School with Measles in the Epidemic of 1892–93 (approximate calculation).*

| Schools. | Number of schools. | Number of scholars. | Cases of measles in scholars. | Number infected in the schools. | Percentage of measles in scholars. | |
|---|---|---|---|---|---|---|
| National schools, first degree | 61 | 1985 | 213 | 164 | 77·0 | 64·0* |
| Primary educational schools | 14 | 651 | 65 | 28 | 48·1 | |
| National schools, second degree | 72 | 2824 | 62 | 36 | 59·7 | 59·0* |
| Lyceums | 16 | 2866 | 132 | 78 | 59·1 | |
| Total | 163 | 8326 | 472 | 306 | 64·0 | |

* Those not prevented from attending, as not already having measles, were 22·5 per cent.; of these, 17·25 per cent. were infected.

TABLE IX.—*Scholars infected with Scarlet Fever in the Schools in the Epidemic of 1891–92 (approximate calculation).*

| Schools. | Number of schools. | Number of scholars. | Cases of scarlet fever in scholars. | Number infected in the schools. | Percentage of scarlet fever in scholars. |
|---|---|---|---|---|---|
| National schools, first degree | 53 | 1908 | 40 | 5 | 12·5 |
| Primary educational schools | 13 | 605 | 9 | 0 | 0 |
| National schools, second degree | 70 | 2658 | 13 | 0 | 0 |
| Lyceums | 16 | 2522 | 31 | 6 | 19·4 |
| Total | 152 | 7693 | 93 | 11 | 14·8 |

Professor Palmberg's conclusions:—1. Epidemic diseases in day-schools may be divided into two groups—viz. (*a*) measles, German measles, parotitis, scarlet fever, diphtheria, small-pox, and exanthematic and recurrent typhus fever; and (*b*) pertussis, typhoid fever, dysentery, enteric fever, and epidemic eye diseases. Cholera is excepted. 2. A child suffering from any epidemic disease coming under (*a*) or (*b*) should not be allowed to enter a school. 3. Scholars from infected houses falling under Group (*a*) should not be allowed to go to school, or only after the necessary disinfection. 4. In large epidemics it may be necessary to close a school or some classes of a school; but that is generally necessary only for so many days as the incubation term of the respective disease lasts. The tables show that closing would be scarcely necessary in the case of scarlet fever and as regards the higher classes in the schools. 5. The best results are to be expected from collaboration of the health officers with the respective headmasters. 6. With regard to cholera, it is for the medical officer of health to determine the particular rules in each epidemic. 7. The complete or partial closing of a school should be the duty of the health officer, who also has to carry out and supervise isolation and disinfection.

SECTION OF PROPHYLAXIS.

The most important subject discussed in this Section was that of typhoid fever. An introductory lecture on

*The Occurrence of Typhoid Fever in Large Towns in Recent Times in its relation to Drinking Water*

was read by Professor Drasche of Vienna. He alluded at first to the importance of typhoid fever as a sickness affecting especially strong persons, causing various other diseases, and having a high mean duration of many weeks. By the help of modern hygienic measures, by good water-supply, and efficient disposal of sewage the morbidity and mortality of typhoid fever have (he said) been considerably reduced. There are some who still deny the influence of drinking-water on the spread of typhoid fever and believe that the lower mortality of recent times is due to various sanitary measures other than the provision of an improved water-supply. Professor Drasche, who has undertaken a careful investigation of the epidemiology of typhoid fever, submitted to the meeting ample statistical evidence showing the influence of the quality of drinking-water on typhoid fever. The fall of the rates of mortality from this contagious disease at Munich has (be continued) been proved clearly to be due to the introduction of a good drinking-water. In Vienna, where a good water-supply was instituted in 1873, there were not less than 800 deaths from typhoid fever annually from the year 1855 up to 1872, and this mortality was reduced to 200 annually from 1873 to 1891; 600 lives were spared in this way yearly by a good water-supply. Also other intestinal affections are less frequent since the "Hochquellen" water has been brought to Vienna. At the large Vienna hospitals 2983 persons suffered from gastro-intestinal catarrh among the 10,000 hospital cases annually from 1859 to 1873, while from 1873 to 1891 there were only 1357 cases of the same disease. Dysentery was reduced to one-fifth of its former rate since 1873. Those who doubt the influence of a good drinking water on typhoid fever may be convinced by what occurred at Vienna in 1877. Then, the water-supply having become scarce on account of meteorological conditions, Danube water was used for some parts of the town. These districts of the town had a morbidity from typhoid fever amounting to 24·2 per cent., while the parts of the town supplied by the "Hochquellen" had a morbidity of 2·7 per cent. only. There was a mortality of 1·6 per 1000 inhabitants in the houses supplied by the "Hochquellen," and of 4·5 per 1000 in those supplied by the Danube waterworks. The influence of water on the spread of typhoid fever becomes clear by such examples. Further evidence in this direction is afforded by the statistics of Naples, Bremen, and Budapest, where, in the districts provided with filtered Danube water, 3·42 cases of typhoid fever occurred yearly per 1000 inhabitants, while in those with unfiltered water the morbidity was 5 per 1000. Highly instructive, also, are the Zurich epidemic in 1889, and the epidemic at Fünfkirchen (Hungary) in 1890-91, where 1228 persons among a population of 30,000 were affected by typhoid fever, with 93 deaths. This epidemic, having been produced by the contamination of the water-supply, decreased rapidly from the moment when the infected water-supply was stopped. A similar result occurred at Lemberg (Galicia), where contamination of the drinking-water of one of its suburbs produced epidemics in 1890 and 1891 which were stopped immediately by preventing the use of the contaminated water. The importance of drinking-water in the spread of typhoid fever is further illustrated by the observations made during the epidemics produced by the use of infected milk in England and in Germany (Cologne, Strassburg, Ober-Schmollen in Silesia). Dr. Drasche believed that the statistics published during recent years prove sufficiently the importance of a good drinking-water in the prevention of typhoid fever; he therefore asked that all towns should take the utmost care regarding their water-supply. Apart from water, milk may become an important factor in the production of typhoid fever; the milk-supply should, therefore, be controlled constantly and carefully. The law should prohibit the sale of milk from infected districts. It would be advisable to avoid the use of unboiled milk.

# Medical News.

THE ROYAL VISIT TO BIRMINGHAM.—On Saturday, Sept. 8th, Birmingham was honoured by a visit from the Duke and Duchess of York, who journeyed to the hardware capital for the purpose of laying the foundation-stone of the New General Hospital. The new building, it is estimated, will cost upwards of £200,000, and towards this amount a sum of nearly £140,000 has already been received. The Duke of York spoke feelingly, at the luncheon given in his honour by the mayor, of the warm reception extended to the Royal party and of the marked enthusiasm of the inhabitants of Birmingham in the carrying out of beneficial work in their great city. By the Duke's consent one of the wards is to be named the "Princess May Ward."

THE NEW BUILDINGS AT THE YORKSHIRE COLLEGE MEDICAL SCHOOL.—The Duke and Duchess of York are announced to perform a similar gracious act at Leeds at the beginning of next month, for on Oct. 5th their Royal Highnesses will open the hall, library, and medical school of the Yorkshire College.

THE annual meeting of Pitman's Metropolitan School of Shorthand will be held on Tuesday, Sept. 25th, at the Holborn Town Hall, Gray's-inn-road, W.C., at 7.30 P.M., when the various money prizes, medals, and first-class certificates won by members of the school at the Society of Arts and other examinations during 1894 will be presented by the Right Hon. the Lord Mayor of London. It is expected that Sir Isaac Pitman will also be present.

THE FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.—At a meeting of Licentiates of the Faculty, held in the Faculty Hall on Tuesday last, Dr. David Caldwell McVail, Crown Member for Scotland of the General Medical Council, and Professor of Clinical Medicine in St. Mungo's College, and Dr. John Lindsay Steven, Pathologist to the Glasgow Royal Infirmary, were elected Members of the Council for a period of four years.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. F. Strassmann has been promoted to an Extraordinary Professorship of Forensic Medicine.—*Bonn:* Dr. Bleibtreu has been recognised as *privat-docent* in Physiology.—*Breslau:* Dr. Adalbert Czerny of Prague has been appointed Extraordinary Professor of Children's Diseases. An extensive enlargement of the University buildings has been sanctioned. First of all an Anatomical Institute will be erected, and this will be followed by an Ophthalmic Clinic, and afterwards by an Institute for Hygiene and Pharmacology.—*Freiburg:* Dr. Oppel has been promoted to an Extraordinary Professorship of Anatomy.—*Göttingen:* Dr. Aschoff has been recognised as *privat-docent* in Pathological Anatomy.—*Heidelberg:* Dr. Lossen has been promoted to an Honorary Professorship of Surgery.—*Leipsic:* Dr. O. Soltmann of Breslau has been appointed Extraordinary Professor of Children's Diseases.—*Tübingen:* Dr. Roloff has been recognised as *privat-docent* in Pathological Anatomy and Bacteriology.—*Vienna:* Dr. Kerry has been recognised as *privat-docent* in Medical Chemistry.—*Warsaw:* Dr. Ushinski of St. Petersburg has been appointed Professor of General and Experimental Pathology.—*Würzburg:* Dr. Lehmann has been promoted to the rank of Ordinary Professor of Hygiene.—*Philadelphia (Medico-Chirurgical College):* Dr. A. E. Kènelly has been appointed Professor of Electrotherapeutics.

FOOTBALL CASUALTY.—During a match on Saturday last on the Recreation Ground, Golborne, between the home players and Little Lever teams, a player, a half-back, fractured his patella and was taken to the Bolton Infirmary.

THE HOSPITALS FOR PHTHISIS IN SCOTLAND.—The memorial stone of the first of the proposed series of these hospitals was laid a few days ago, on the grounds of Carsemeadow, Glasgow, adjoining the "Orphan Homes of Scotland," of which, in fact, it is to form an offshoot. It is intended to erect eight or ten buildings, as funds permit. The cost of building the first, amounting to £7000, is borne by a donor who has been (and remains) quite unknown. This first building is intended for female adult and child patients. Its style of architecture is Gothic, its roofs are "projected," its walls hollow, while the windows are fitted with inner sashes to keep the temperature of the air in the various departments uniform.

THE ANCOATS HEALTHY HOMES SOCIETY.—On Tuesday, Sept. 11th, the annual meeting of this Society was held in St. Peter's School, Manchester, under the presidency of Mr. Henry Aldred, M.R.C.S., L.R.C.P.I. According to the report thirty-one recreative meetings had been held in different parts of the district, with an average attendance of 700 per meeting, the figures proving the growing appreciation by the district of the work of the Society. The lecturers of the Society had included during the past year ten medical men, as against three lawyers and three clergymen, so that the medical profession can fairly claim to have counted for something in the capture of public approval. The report was adopted, and Mr. Aldred was re-elected President for the ensuing year.

LITERARY INTELLIGENCE.—A fourth edition (which has been enlarged and entirely rewritten to bring it up to date) of Mr. Pepper's "Elements of Surgical Pathology" is announced by Messrs. Cassell and Co. for immediate appearance.—A seventh edition of Professor Charteris's "Guide to the Practice of Medicine" is announced by Messrs. J. & A. Churchill for October.—Messrs. Baillière, Tindall and Cox are the English publishers of a magnificent illustrated Dictionary of Medicine, Biology, and Allied Sciences, which has been published under the sole editorship and supervision of Dr. G. M. Gould, President of the American Academy of Medicine, by Messrs. Blakiston, Son, and Co., of Philadelphia. The dictionary will make its public appearance this week.

WE directed attention last week to the Clinical Research Association, which has been formed with the object of assisting medical practitioners by providing them with reports—pathological and bacteriological—upon specimens submitted. We have received from Mr. E. C. Bousfield the following letter, from which it will be seen that he also has anticipated the possible need of many of his fellow practitioners. "I shall be much obliged," he writes, "if you will allow me to mention, for the benefit of those whom it may concern, that I have recently fitted up a laboratory for bacteriological and pathological work, with the several objects of (1) doing for medical men the work of that kind the need for which arises in their practice, but which, for lack of time or knowledge, they may be unable to do for themselves; (2) affording facilities for original work in those subjects at any time of the day, the hours in the public laboratories being inconvenient or impossible for a large number of practitioners; and (3) furnishing instruction in those subjects at such times as may be agreed upon. I believe that this fresh departure will meet a felt want, or I should not venture to appeal for the aid of your columns in making the fact known."

# Appointments.

*Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to* THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ASHTON, HAROLD, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of Health for Chadderton.

BENSON, HY. THOS., L.R.C.P. Lond., &c., has been appointed Medical Officer and Public Vaccinator for Market Deeping District of the Bourne Union, vice W. B. Deacon, resigned; also Cert. Factory Surgeon.

BOYD, J. WOOD, M.B. & C.M. Glasg., has been appointed Assistant Surgeon to the Liverpool Dispensaries.

CHILCOTT, A. E., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Superintendent for the Infirmary, of the Parish of St. Pancras, vice McCann, resigned.

CHRISTIE, W. LEDINGHAM, M.D., F.R.C.S., has been appointed House Surgeon to the Bristol Hospital for Sick Children and Women, vice Dr. Alexander Jamison, resigned.

COLCLOUGH, W. FRANK, B.A., M.B., B.C. Cantab., M.R.C.S., L.R.C.P., has been appointed Medical Officer to the British Hospital, Oporto, Portugal.

COWAN, JOHN J., M.B., M.S. Edin., has been appointed Medical Officer for the Leigh Sanitary District of the Martley Union.

CRAWFORD, A., M.B., M.S. Glasg., has been appointed Assistant Medical Officer to the Infirmary of the Parish of St. George-in-the-East.

DUTHIE, W. E. G., M.B., C.M. Aberd., has been appointed Resident Physician to the City Hospital, Aberdeen.

EKINS, A. E., Mr., has been appointed Analyst for the Borough of Luton, Herts.

ELLIOTT, THOS., M.D. Dub., L.R.C.S., L.M., has been appointed Medical Officer for the Frant Sanitary District of the Ticehurst Union.

GAMGEE, LEONARD PARKER, F.R.C.S. Eng., L.R.C.P., has been appointed Assistant Surgeon to the General Hospital, Birmingham.

GIBSON, CHAS. G., M.B., C.M. Edin., has been reappointed Medical Officer of Health for the Launceston Rural and Urban Sanitary Districts.

GREEN, A., M.B. Durh., M.R.C.S., has been appointed Medical Officer for the Sanitary District of Haggerston, East, Shoreditch.

HASLAM, W. A., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant Medical Officer for the Infirmary, West Derby Union.

JONES, T. H., M.B., C.M. Edin., has been appointed Assistant House Surgeon to the Infirmary for Children, Liverpool.

KEMPE, C. G. B., M.B. Durh., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant House Surgeon to the Sussex County Hospital.

KEMPE, J. ARTHUR, F.R.C.S. Eng., L.R.C.P. Lond., has been appointed Senior Demonstrator of Anatomy at the Edinburgh School of Medicine, Minto House.

KNIGHT, JOHN T., M.R.C.S., has been reappointed Medical Officer of Health for Carlton.

LYLE, H. WILLOUGHBY, M.R.C.S. Eng., L.R.C.P. Lond., has been appointed House Surgeon to St. Peter's Hospital, Henrietta-street, Covent-garden, W.C.

MOLYNEUX, H. J., L.R.C.P., L.M. Edin., M.R.C.S., has been appointed Medical Officer for the Billinge Sanitary District of the Wigan Union.

MORICE, CHARLES G. F., L.R.C.P. Lond., M.R.C.S., has been appointed Resident Surgeon Superintendent to the Grey River Hospital, Greymouth, New Zealand.

PARKER, GEORGE R., L.R.C.P. Lond., M.R.C.S., has been reappointed Medical Officer of Health for the Lancaster Rural Sanitary District.

PINDER, GEORGE, M.D. Cantab., has been appointed Senior Assistant Surgeon to the South Dispensary, Liverpool.

SHAW, J. HEPWORTH, M.B., Ch.B. Vict., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Head Surgeon to the Liverpool South Dispensary, vice Dr. E. P. Manby, resigned.

STEWART, J. S., L.R.C.P., L.M., L.R.C.S. Irel., has been appointed Medical Officer of Health for the Kinson Urban Sanitary District.

TOMKYS, L. S., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the St. Chad Sanitary District of the Lichfield Union, vice Carter, resigned.

VINCENT, H. B., has been appointed Medical Officer of Health to the Cromer Sanitary Authority, vice S. T. Taylor, M.B., resigned.

WILKIN, J. ACHESON, L.R.C.P. & S.E., L.F.P.S.G., L.M., has been appointed Assistant Surgeon to the East Dispensary, Liverpool, vice T. B. P. Wilkinson, M.B., resigned.

WILLIAMS, JOHN H., M.D., C.M. Edin., has been reappointed Medical Officer of Health for the Borough of Flint.

# Vacancies.

*For further information regarding each vacancy reference should be made to the advertisement (see Index).*

BRIDGWATER INFIRMARY.—House Surgeon. Salary £80 per annum, with board and residence.

CANCER HOSPITAL (FREE), Brompton-road, S.W.—Two House Surgeons. Salary at the rate of £60 and £50 per annum respectively, with board and residence.

CARLISLE DISPENSARY.—House Surgeon. Salary £130 per annum, with apartments (not board). Applications to the Hon. Secretary, 14, Bank-street, Carlisle.

CHELSEA, BROMPTON, AND BELGRAVE DISPENSARY, 41, Sloane-square, S.W.—House Surgeon and Secretary. Salary £115 per annum, with furnished apartments and an allowance of £20 for coals and candles.

CHILDREN'S HOSPITAL, Nottingham.—House Surgeon for six months. Salary at the rate of £100 per annum.

CORNWALL COUNTY ASYLUM, Bodmin.—Junior Assistant Medical Officer, unmarried. Salary to commence at £100 per annum, increasing by £10 annually to £120 a year, with board, lodging, washing, and attendance.

LEITH HOSPITAL.—House Physician, House Surgeon, and Surgeon for the Out-door Department, each for six months. Salary attached to each office is at the rate of £50 a year, with board in the hospital.

LONDON COUNTY ASYLUM, Hanwell.—A Fifth Assistant Medical Officer. Salary £120 per annum, rising by £5 a year to £150, with board, furnished apartments, and washing. Applications to the Clerk of the Asylums Committee, Asylums Committee Office, 21, Whitehall-place, S.W.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—Examiner in Public Health.

ROYAL SURREY COUNTY HOSPITAL, Guildford.—Assistant House Surgeon. Board, residence, and laundry provided.

ROYAL UNITED HOSPITAL, Bath.—House Surgeon, for one year. Salary £60, with board, lodging, and washing.

ST. MARYLEBONE GENERAL DISPENSARY, 77, Welbeck-street, Cavendish-square.—Resident Medical Officer. Salary 100 guineas per annum, with an annual increase of 10 guineas to a maximum of 120 guineas, with furnished apartments, attendance, coal, and gas.

SWANSEA GENERAL AND EYE HOSPITAL.—Clinical Assistant for six months. Board, lodging, and washing provided.

THE COPPICE ASYLUM, Nottingham.—Assistant Medical Officer for private patients, unmarried. Salary £120 per annum, with apartments, board, attendance, and washing.

THE GENERAL HOSPITAL, Birmingham.—Two Assistant House Surgeons for six months. Residence, board, and washing provided.

THE GENERAL HOSPITAL, Birmingham.—House Physician for one year. Salary £70 per annum, with residence, board, and washing.

THE GENERAL HOSPITAL, Birmingham.—Resident Surgical Officer for one year. Salary £130 per annum, with residence, board, and washing.

# Births, Marriages, and Deaths.

## BIRTHS.

BARRS.—On Aug. 30th, at Wandsworth Bridge-road, Fulham, the wife of John H. Barrs, surgeon, of a son.

DAY.—On Sept. 7th, at Surrey-street, Norwich, the wife of Donald D. Day, F.R.C.S., of a son.

DE JERSEY.—On Sept. 8th, at Marina, St. Leonards-on-Sea, the wife of Walter B. de Jersey, M.B. Cantab., of Finchley-road, N.W., of a son, prematurely.

HOLT.—On Sept. 11th, at Josephine-avenue, Brixton-hill, the wife of H. Lyttleton Holt., M.R.C.S., L.R.C.P., of a son.

NICOLL.—On Sept. 6th, at Saintbury, Upper Clapton, N.E., the wife of T. Vere Nicoll, M.R.C.S., L.R.C.P. Lond., of a son, prematurely.

UMNEY.—On Sept. 7th, at Crystal Palace Park-road, Sydenham, the wife of William F. Umney, M.D. Lond., M.R.C.S. Eng., of a daughter.

WEAVER.—On Sept. 5th, at Southport, the wife of John J. Weaver, M.R.C.S., L.S.A., of a daughter.

## MARRIAGES.

ALCOCK—RICHARDSON.—On Sept. 6th, at South Hackney Church, Richard Alcock, M.D., of Goole, Yorks, to Edith, daughter of the late Richard Dalton Richardson, Esq., of Hackney.

ARMSTRONG—KING.—On Sept. 5th, at Dublin, William Armstrong, L.R.C.P., &c., West Boldon, county Durham, to Bessie Burnet, daughter of Deputy-Surgeon-General King, M.B., Madras (Retired).

COLES—ELLIS.—On Sept. 5th, at St. Andrew's, Hillingdon, Charles Coles, M.D. Lond., of Leicester, to Clara E. Ellis of Hillingdon-road, Uxbridge.

CUTTING—PATERSON.—On Sept. 5th, at the parish church, Chingford, Essex, Ernest Buxton Cutting, M.R.C.S., L.R.C.P., of Stalham, Norfolk, to Agnes Emma, daughter of the late William James Paterson, of Bouverie-street, London, solicitor.

HIGHMOOR—CROYSDALE.—On Sept. 5th, at St. Peter's Church, Bramley, Richard Nicholson Highmoor, M.B., M.C.H., son of the late James Raper Highmoor, of Ainderby, Thirsk, to Ellen, eldest daughter of Joseph Croysdale, Bramley, Leeds.

HOLMAN—WALLIS.—On Sept. 12th, at St. Saviour's, Eastbourne, by the Rev. Canon Whelpton (Vicar), assisted by the Rev. C. O. Crowden, D.D., and the Rev. E. D. Cree, M.A., Henry James Holman, M.R.C.S., L.R.C.P., elder son of Henry Holman, Esq., of East Hoathly, to Florence Alice, second daughter of George A. Wallis, Esq., J.P., C.E., of Fairfield Court, Eastbourne, Sussex.

LOXTON—KNOWLES.—On Sept. 11th, at Edgbaston Parish Church, William Arthur Loxton, M.R.C.S., to Kathleen, youngest daughter of Abraham Knowles, of Edgbaston.

MALLARD—WHILLIER.—On Sept. 6th, at St. Peter's Church, Southsea, Frank Reginald Mallard, M.R.C.S., of Hammersmith, W., to Kate, younger daughter of John T. Whillier, of Southsea.

REID—GILES.—On Sept. 8th, at the Parish Church of St. Mary, Lambeth, Robert Galbraith Reid, M.B., C.M., third son of James Reid, of Willow Bank, Bromley, Kent, to Isabel Sophia (Cissie), eldest daughter of Thomas Giles, of Lambeth-terrace.

TAYLOR—IVATTS.—On Sept. 4th, at Holyrood Church, Stubbington, Hants, Herbert Edward Taylor, B.A., M.D., of Aylesford, Kent, to Nora Ethel, younger daughter of E. B. Ivatts, Tankerton, Lee-on-the-Solent, Hants.

TRIGGS—STACK.—On Sept. 4th, at St. Jude's Church, Southsea, J. Bellhouse Bowden Triggs, Staff Surgeon, Royal Navy, to Rose Alice Lilian, eldest daughter of Robert S. Stack, late of St. Catherine's, Ailesbury-road, Dublin.

WALKER—TAMPLIN.—On Sept. 4th, at the parish church, Brighton, Surgeon-Captain Charles Pope Walker, A.M.S., of Southsea, to Lilian Selborne, third daughter of the late W. C. Tamplin, Esq., of Lennox-place, Brighton.

WATKINS—SKUES.—On Sept. 4th, at Croydon, Walter Watkins, L.R.C.P. Lond., M.R.C.S. Eng., Manor Lodge, Boscombe, Bournemouth, son of A. O. Watkins, Esq., late of Newport, Mon., to Gertrude, daughter of the late Brigade-Surgeon William Mackenzie Skues, M.D., A.M.D.

## DEATHS.

NESBITT.—On May 12th, at his residence, Salisbury, South Australia, William Peel Nesbitt, M.B. Edin., in his 44th year.

WORKMAN.—On Sept. 11th, at 34, Russell-street, Reading, John Woodroffe Workman, surgeon, aged 87. "A sinner saved by grace alone." No flowers, by request.

IN MEMORIAM.

WILLIAMSON.—Sept. 13th, 1893.—In loving memory of James Henry Williamson, M.R.C.S. Eng., L.R.C.P. Lond., late Resident Surgeon at the Clinical Hospital, Manchester, eldest son of W. H. Williamson of Cheetham.—R.I.P.

***N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.***

# Notes, Short Comments & Answers to Correspondents.

## EDITORIAL NOTICE.

**IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.**

*It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.*

*Lectures, original articles, and reports should be written on one side only of the paper.*

*Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.*

*We cannot prescribe or recommend practitioners.*

*Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."*

*Letters relating to the publication, sale and advertising departments of* THE LANCET *should be addressed "To the Manager."*

*We cannot undertake to return MSS. not used.*

## MANAGER'S NOTICE.

THE INDEX TO THE LANCET.

**IN order to facilitate the work of reference to the volumes of THE LANCET, duplicate copies of the Index to each half-yearly volume are published in a form in which they may be subsequently filed or bound together. Those of our subscribers who may wish to be supplied with loose copies can obtain the same (without extra charge) on making application to the Manager of THE LANCET.**

ACCIDENTAL DEATHS FROM POISON.

OUR correspondent will find much statistical information respecting the deaths from accidental poisoning in England and Wales and in the several counties in the annual reports of the Registrar-General for that part of the United Kingdom. The last of these reports issued relates to the year 1892, and is published, price 1*s.* 3*d.*, by Messrs. Eyre and Spottiswoode, Queen's Printers, of East Harding-street, Fetter-lane, E.C.

*Practitioner.*—1. No.—2. No.—3. No. In such a case as that sketched by our correspondent the insanity has to be treated—viz., by strict regimen, attention to bowels, thoughtful companionship and close watching, wholesome exercise, light digging or other garden work, and means used to occupy the mind. If circumstances should render such treatment not available with likelihood of success, it might be advisable not to delay too long a patient's removal to a registered hospital or asylum, where attention could be paid to the requirements of the case.

*Mr. J. D. Mortimer, M.B.*—We cannot imagine any objection to the use of the water for the reason mentioned by our correspondent. The sodium salt is almost certain to exist as bicarbonate, and in a quantity which even in the average amount of water consumed daily would be instantly overcome by the gastric acids, with but little impairment of their degree of acidity.

*Surgeon.*—We see a great difference between the two cases supposed. When guardians have to dispose of a parish appointment they should prefer, *as a general rule*, men with full qualification to men only partially qualified.

AN INQUIRY.

*To the Editors of* THE LANCET.

SIRS,—I shall feel obliged if some of your readers would kindly inform me as to the charge usually made in an agricultural village for visits and medicine; also the customary charge per mile for visits to small farmers and agricultural labourers living outside the village.

I am, Sirs, yours faithfully,

Sept. 11th, 1894. VERITAS.

*J. G. B.*—The examination questions have not been furnished for publication for some time; but we will make inquiries into the subject of our correspondent's communication.

*An Old Salt.*—We are not aware that any such alterations are imminent, but have taken steps to ascertain.

### A VALETUDINARIAN'S PLEA FOR DECADENCE.

WE have received from a correspondent the following stanzas indited by a patient, the depressed victim of hepatic sluggishness:—

In far-off days, the sages say,
Our brute forefathers found the way
By Evolution to escape
The lot of the primeval Ape,
And by gradations fine began
To rule the world as big-brained Man.

Wondrous promotion from the ranks,
For which, as man, I give no thanks!
For apehood recks not of the Past—
The tomb of dreams too sweet to last:
And of the Future recks as little—
The Ape forebodes not jot or tittle.

The Present, with its nuts and fruit,
His mate and apelings all hirsute,
The golden sunshine, and the free,
Unfettered life upon a tree—
This is his heritage of joy,
Spontaneous, without alloy.

The Pyramids and Shakespeare's Plays,
The railway, the electric blaze,
The *Times*, and various kinds of votes,
The marvel of the Cunard boats!
Of what avail this wondrous show,
If misery with knowledge grow?

With greater lore comes greater pain;
With soarings lofty, baffled brain;
With wider wishes, sickened soul;
And nothingness for all the goal!
O Ape, rejoice! your parents wise
Made no attempt in scale to rise!

*A.* has apparently some ground of complaint in not having been informed, before calling on his patient, that C. had been called in. The facts seem to be very much involved, and it is possible that C. might put a somewhat different appearance on them; but, as related by A., C. does not appear to have recognised sufficiently that A. was in possession of the case. There seems, too, as in many cases, to have been a certain indecision on the part of the patient which contributed to the confusion.

*R. M.*—For the reasons correctly surmised by our correspondent we refrained from publishing names. We regret that we cannot depart from this rule in the present instance; but we may point out that a close study of the construction of the stoves described in the text should leave no difficulty in selecting one exactly answering the description.

*Dr. Forbes.*—There is no reason why a graduate (M.D.) of Edinburgh, surgeon to a hospital, should not employ his title if he wishes it. Many surgeons, though having the M.D., prefer to drop the more medical title. On the contrary, some very good surgeons have used it—e.g., the late Dr. Heath of Newcastle.

*Mr. James Sanger, Mr. E. W. Heckrath, Mr. Goodwin,* and *Theta.*—We do not recommend individual practitioners.

### ANOTHER WARNING TO RESIDENT MEDICAL OFFICERS.

*To the Editors of* THE LANCET.

SIRS,—My attention having been drawn to a letter in THE LANCET of Sept. 8th headed "A Warning to Resident Medical Officers," I wish to draw attention to another impostor. Curiously enough he, too, has the scar of a trephine wound, but over the *left* temporal region. He is, moreover, dark, about thirty, and not a German, consequently I cannot identify him as the case mentioned in THE LANCET. His *modus operandi* seems to be as follows:—He goes by train to some town where there is a hospital; is picked up on the station platform, apparently unconscious and with right-sided tonic convulsions. This is, of course, at once associated with the trephine wound, and the case is regarded as interesting and kept in for observation. He thus gets board and lodging for a fortnight or more, unless detected at first. He acted his part very well, and had evidently been used as a subject for demonstration at one or more clinical lectures; but he over-acted his part, and I very soon found that he was malingering. As soon as he saw he was detected he got up and left the hospital, within two hours of his admission. During his supposed unconsciousness and convulsions he exposed his chest with the left hand to draw attention to a square foot of emplastrum belladonnæ over his heart, and later on withdrew a bottle of amyl nitrite from his waistcoat pocket. The slightest touch on the scalp *far removed from the trephine scar* brought on the most (apparently) violent convulsions. He had neither money nor railway ticket, but he carried a manuscript collection of poetry and religious texts.—Your obedient servant,

The Infirmary, Peterborough, Sept. 12th, 1894. A. F. R. PLATT, M.B., Acting (and late) House Surgeon.

*Mr. Wyndham Powell,* in reference also to Mr. S. Paget's letter in our issue last week, desires to warn our readers against a man who called at his consulting-rooms on Monday last requesting him to visit a gentleman whose private card he presented. The message turned out to be a hoax. The mysterious visitor is described by Mr. Powell as a spare man with sunken cheeks, of medium height, and about twenty-eight years of age, presenting the general appearance and dress of a clerk in not too good circumstances.

### THE GAINSBOROUGH DISPENSARY AND THE QUALIFICATION OF L.S.A.

*Mr. R. T. Cassal* states that he has been objected to as a medical officer to the above dispensary on the ground that he holds only the Licence of the Apothecaries' Society, 1891. He also says that a general meeting of the subscribers has been called and the rule of the dispensary altered so as to require two separate diplomas. The governors of voluntary institutions have, of course, considerable latitude in the making of their own rules; but as far as this new rule is concerned it is not, in our opinion, in accordance with the spirit or the letter of the existing law. The examinations of the Society of Apothecaries are favourably reported on by the Inspector and Visitors of the General Medical Council; and the licence is now undoubtedly a legal qualification in medicine, surgery, and midwifery.

*Ace.*—Our correspondent's letter does not say whether his client is a medical man or not. We must have fuller particulars before we can express any opinion or give any advice.

ERRATA.—In Dr. W. Robertson's article on Deaf-Mutism in THE LANCET of Sept. 8th, p. 570, twenty-seven lines from the bottom of the first column, for "81 children" read *87 children*, for "95 per cent." read *88·5 per cent.*, and for "12 per cent." read *11·5 per cent.*—In our issue of Aug. 25th, page 462, the name "H. E. Haddon," which occurs sixth on the Army Medical List, should have been *H. E. Staddon.*

## METEOROLOGICAL READINGS.

*(Taken daily at 8.30 a.m. by Steward's Instruments.)*

THE LANCET Office, Sept. 13th, 1894.

| Date. | Barometer reduced to Sea Level and 32° F. | Direction of Wind. | Dry Bulb. | Wet Bulb. | Solar Radia in Vacuo. | Maximum Temp. Shade. | Min. Temp. | Rainfall. | Remarks at 8.30 A.M. |
|---|---|---|---|---|---|---|---|---|---|
| Sept. 7 | 30·11 | W. | 51 | 49 | 85 | 62 | 46 | 0·09 | Hazy |
| ,, 8 | 29·81 | W. | 52 | 50 | 106 | 62 | 50 | 0·33 | Raining |
| ,, 9 | 30·15 | N. | 58 | 54 | 87 | 61 | 51 | ... | Raining |
| ,, 10 | 30·40 | N.E. | 53 | 51 | 103 | 64 | 50 | 0·08 | Cloudy |
| ,, 11 | 30·38 | N.E. | 52 | 50 | 97 | 69 | 47 | ... | Fine |
| ,, 12 | 30·34 | N.E. | 59 | 56 | 103 | 67 | 52 | ... | Fine |
| ,, 13 | 30·37 | E. | 54 | 50 | 83 | 58 | 50 | ... | Fine |

# Medical Diary for the ensuing Week.

## OPERATIONS.

### METROPOLITAN HOSPITALS.

**MONDAY.**—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (1 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynecological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.).

**TUESDAY.**—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1.30 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.).

**WEDNESDAY.**—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), Gt. Northern Central (2.30 P.M.), King's College (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.).

**THURSDAY.**—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (2 P.M.), Chelsea (2 P.M.), Soho-square (2 P.M.), North West London (2 P.M.).

**FRIDAY.**—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), Cancer (2 P.M.).

**SATURDAY.**—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

**During the week marked copies of the following newspapers have been received:**—*Devon Weekly Times, Warwick Times, Kenilworth Advertiser, South Wales Times, Western Mercury, Medical Record (New York), Leicester Post, Bradford Observer, Sussex Daily News, Birmingham Gazette, Glasgow Herald, Newcastle Chronicle, Coleshill Chronicle, Bedfordshire Times, Yorkshire Evening Post, Bristol Observer, Evening Reporter, Licensing World, Evening Telegraph (Dundee), Bridge of Allan Reporter, Wakefield Herald, Bradford Daily Telegraph, Stirling Journal, Reading Mercury, Local Government Chronicle, City Press, Weekly Free Press and Aberdeen Herald, West Middlesex Standard, Leeds Mercury, Sanitary Record, Hertfordshire Mercury, Bristol Mercury, Liverpool Daily Post, Free Press, (West Bromwich) Glossop-dale Chronicle, Yorkshire Post, Architect, Times of India, Pioneer Mail, Builder, Ashton-under-Lyne Herald, Bradford Daily Telegraph, Cornish Times, Surrey Advertiser, Guy's Hospital Gazette, Local Government Journal, Redditch Indicator, Kidderminster Times, Nature, Ulster Gazette, Morning Advertiser, Daily News, Melbourne Age, Montgomery County Times, West Middlesex Advertiser, Lincoln Gazette, Pharmaceutical Journal of Australia, The Sentinel, Brighouse News, Galignani Messenger, Uxbridge Gazette, Irish Ecclesiastical Gazette, Rochdale Times, Northern Whig, and Dundee Advertiser, &c. &c.**

## Communications, Letters &c. have been received from—

**A.**—Mr. Altschul, London; Messrs. Aubrey, Hall, and Co., Manchester; A Provincial Member; An Old Salt.

**B.**—Dr. R. Broadbent, Leicester; Mr. R. Bowes, Darlington; Mr. E. Barber, Sheffield; Mr. T. G. Berne, London; Mr. E. F. Bindloss, Melbourne; Mrs. L. A. Brooks, Grays; Messrs. Bates, Hendy and Co., London; Messrs. Burgoyne and Co., London; Messrs. A. and C. Black, London; Brighton, Hove, and Preston Dispensary, Hon. Secretary of; Birmingham General Hospital, House Governor of.

**C.**—Dr. W. J. Collins, London; Prof. E. M. Crookshank, East Grinstead; Mr. R. T. Cassal, Gainsborough; Messrs. Christy and Co., London; Messrs. Condy and Mitchell, London; Chelsea Hospital for Women, London, Secretary of; Carlisle Dispensary, Secretary of; Carpus, London.

**D.**—Dr. W. Dale, Truro; Mr. G. H. De'Ath, Buckingham; Mr. P. E. Davies, Kidderminster; Miss M. E. Docwra, Kelvedon; Messrs. W. Dawson and Sons, London; Messrs. A. De St. Dalmas and Co., Leicester; Doctor, London.

**E.**—Edinburgh School of Medicine, Secretary of; Emw, London.

**F.**—Dr. D. Forbes, Bootle; Mr. Moffat Flynn, London.

**G.**—Dr. C. Gayford, London; Mr. J. D. Galloway, London; Mr. T. W. H. Garstang, Knutsford; Germicide Co. of London, Secretary of; Gentian, London.

**H.**—Dr. J. Hamilton, Glasgow; Dr. W. S. Hedley, Brighton; Dr. W. A. Hatton, West Loughton; Mr. G. Hartridge, London; Mr. W. M. Hutton, Midlothian; Mr. A. Haviland, London; Mr. C. T. W. Hirsch, Fiji; Mr. A. A. Hargrave, Tralee; Messrs. Hertz and Collingwood, London; H. S., London; Health, London.

**J.**—Mr. T. C. Jones, London; Messrs. Jarrold and Sons, Yarmouth.

**K.**—Dr. L. Kidd, London; Mr. P. Kavanagh, Romford; Messrs. King and Friedmann, Hamburg.

**L.**—Mr. W. Langdon, Belper; Mr. H. K. Lewis, London; Messrs. J. A. Lumley and Co., London; Liquor Carnis Co., Tring, Manager of; L. C., London.

**M.**—Dr. E. Malins, Birmingham; Dr. J. D. Mortimer, Horley; Dr. E. J. Moure, Bordeaux; Mr. R. Minshall, London; Mr. W. N. Morrison, St. Louis; Mr. M. G. McEllicote, Manchester; Mr. Mr. John Moir, London; R. K. Mitter, Madras; Messrs. Miller & Richards, London; Messrs. Maythorn and Son, Biggleswade; Messrs. E. Marlborough and Co., London; Maltine Manufacturing Co., London; Medico-Chirurgical Society, Hon. Sec. of, Brighton; Midlands, London; M. L. H., London; Masonic, London.

**N.**—Mrs. Naan, Potter's Bar; Nottingham Children's Hospital, Secretary of; N. O., London.

**O.**—Mr. E. J. Orchard, Salisbury.

**P.**—Dr. C. E. Purslow, Birmingham; Mr. D'Arcy Power, London; Mr. T. H. Pryce, Redcar; Mr. J. B. Pettey, Bournemouth; Mr. W. W. Powell, London; Mr. J. B. Pike, Loughborough; Messrs. Parke, Davis, and Co., London.

**R.**—Dr. W. Rogers, Armley; Dr. A. G. Richardson, Rhayader; Messrs. Reynell and Son, London; Reuter's Telegram Co., Traffic Superintendent of; Ramus, London.

**S.**—Dr. T. D. Savill, London; Dr. F. W. Saunders, Newbury; Mr. H. E. Staddon, Ipswich; Mr. W. F. Stevenson, Netley; St. Mungo's College, Glasgow, Dean of Medical Faculty of; Scientific Press, Limited, Secretary of; St. John Ambulance Association, London; Swansea Hospital, Hon. Secretary of; *Shipping World*, London, Editor of; Secretary, London.

**T.**—Mr. T. F. Tracy, Glasgow; Mr. R. Tobit, London; Miss Taylor, Davos Platz; Type Setting Syndicate, Limited, London, Managing Director of; T., London.

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**W.**—Dr. H. W. Webber, Rickmansworth; Mr. L. B. Wheeler, Wolverhampton; W. G. G. London; W. L. P., London.

**Y.**—Yorkshire College, Leeds, Secretary of.

## Letters, each with enclosure, are also acknowledged from—

**A.**—Dr. W. D. Anderson, Ballachulish; Dr. M. H. C. Atkinson, Leamington; Dr. R. Ackerley, Willington; Mr. A. R. Adams, Dover; A. M., London; A. M. O., London; Æsculapius, London.

**B.**—Mr. W. Bowes, Adlington; Mr. S. C. Bloxham, Ascot; Mr. H. Brice, jun., Exeter; Miss Bullen, London; Bridgwater Infirmary, Secretary of; Bath Clerical and Medical Bank, Manager of; Baker, London.

**C.**—Mr. W. Conkey, Glenanne, co. Armagh; Mr. N. Cleghorn, Marlborough, N.Z.; Mrs. Choat, Brading; Chichester Infirmary, Secretary of; Centum, London; C. B., London; C. P. K., London.

**D.**—Deltoid, London; Delta, York.

**E.**—Mr. R. Eyton-Jones, Birkenhead; Mr. J. Evans, Oswestry; Mr. H. M. Eames, Shipley; Miss E., Tunbridge Wells; Electro, London.

**F.**—Mr. C. St. A. Farra, Lowestoft; Finbar, London.

**G.**—Mr. T. Gilbert, Columbus, Ga., U.S.A.; Mr. W. V. Griffith, Coedpoeth; Mr. J. Guest, Devizes.

**H.**—Dr. J. F. Horne, Barnsley; Mr. J. Hill, Birmingham; Mr. J. E. Halpin, South Normanton; H. H., London; H. D., London; Harewood, London.

**I.**—Dr. E. Innes, Trivandrum, India; International News Co., London.

**J.**—Dr. Jeans, Eastbourne; Johnson, London.

**K.**—Dr. H. P. Keatinge, Cairo.

**L.**—Mr. C. Lintern, Ivybridge; Leith Hospital, Secretary of; Locum, Coventry; L. C., London.

**M.**—Dr. J. Meehan, Erith; Dr. D. S. Morrison, Ardrishaig; Mr. H. E. Mortis, Leicester; Mr. F. W. Miller, Fakenham; Mr. S. R. Merry, Hemel Hempstead; Melros, London; Medicus, Newcastle-on-Tyne; M. T., London; M. R. C. S., Hulme; Medicus, London; Medicus, Hyde; M. D., London; M. E., London.

**N.**—North Yorkshire, London.

**O.**—Mr. A. B. C. Orchard, Bovey; Mr. F. Orchard, London; Oxon, London.

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**T.**—Dr. J. P. Topping, Teddington; Mr. J. Thin, Edinburgh; Mr. W. Tonge, Bournemouth; Mr. J. B. Thomas, Llangadock; Theta, London; T. L., London.

**U.**—Ulna, London.

**W.**—Dr. A. T. H. Waters, Liverpool; Dr. W. K. Walls, Manchester; Dr. R. L. Wood, Newbridge; Dr. G. Wight, London; Mr. H. J. L. Wales, Camborne; Mr. S. G. Watson, Herne Bay; Mr. E. S. Warburton, Treherbert; Mr. W. H. Williamson, Cheetham; Mr. B. Williams, Market Drayton; Mr. E. Wright, Warrington; Mr. W. Watkins, Bowness; W. M., Stockton-on-Tees; W. X., London; W. G. G., London.

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